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Instagram: Motives for its use and relationship to narcissism and contextual age

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ABSTRACT

Instagram is the fastest growing social network site globally. This study investigates motives for its use, and its relationship to contextual age and narcissism. A survey of 239 college students revealed that the main reasons for Instagram use are "Surveillance/Knowledge about others," "Documentation," "Coolness," and "Creativity." The next significant finding was a positive relationship between those who scored high in interpersonal interaction and using Instagram for coolness, creative purposes, and surveillance. Another interesting finding shows that there is a positive relationship between high levels of social activity (traveling, going to sporting events, visiting friends, etc.) and being motivated to use Instagram as a means of documentation. In reference to narcissism, there was a positive relationship between using Instagram to be cool and for surveillance. Theoretical contributions of this study relate to our understanding of uses and gratifications theory. This study uncovers new motives for social media use not identified in previous literature.

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1. Introduction

Instagram is an online, mobile phone photo-sharing, video-sharing, and social network service (SNS) that enables its users to take pictures and videos, and then share them on other platforms (Frommer, 2010). It is currently the fastest growing social network site globally (Wagner, 2015); however, there is not much academic research studying why people use it, and who the people are who use it. The idea behind the site is to share photographs and videos by using a hashtag (#) so that other users can find the photographs. While similar to Facebook in the way that users can post photos online, unlike Facebook, Instagram offers a number of special filters that allow users to change the colors and resolutions of the photographs before they post them. Although some may see a limitation of Instagram in being a mobile-only service, statistics show that mobile handsets are now the most popular form of access to social network sites (Lunden, 2014). As of August 2015, 28% of online adults use Instagram, more women than men (Pew Research Center, 2015). That number, however, does not include minors who anecdotally use Instagram in larger percentages.

As Internet users spend more time on Instagram than on other sites, it is important for organizations to understand why consumers use Instagram and what gratifications they receive from it. Therefore, the purpose of this study is to investigate motives for using Instagram. Furthermore, this study investigates how participants' life position indicators, including life satisfaction, interpersonal interaction, and social activity, and also the psychological trait of narcissism, influence their use of Instagram. According to uses and gratifications theory (U&G; Katz, Blumler, & Gurevitch, 1974), individual differences influence motivations for engaging with different media. Elements such as physical health, mobility, life satisfaction, interpersonal interaction, social activity, and economic security are more informative than just demographics in explaining interpersonal needs and motives (Rubin & Rubin, 1982). Rubin and Rubin (1982) called this construct "a contextual age." However, contextual age is often ignored when studying motivations for media consumption, although several recent studies (e.g., Bondad-Brown, Rice, & Pearce, 2012; Sheldon, 2014a, 2014b) have found a relationship between the contextual age and Internet use.

Another factor that might be related to Instagram use is narcissism. Buffardi and Campbell (2008) argued that narcissists use social network sites because they function well in the context of shallow relationships and highly controlled environments, where they have complete power over self-presentation. According to the uses and gratifications approach, a person's social and

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psychological characteristics influence not only motives for communicating (their gratifications sought), but also gratifications obtained. While gratifications sought are measured as what the audience's reasons are for using Instagram, behavioral outcomes are measured as the amount of Instagram use, the frequency of posting hashtags, and the amount of time spent editing Instagram photos.

1.1. Uses and gratifications theory

The assumption of U&G theory is that people are active in choosing and using media based on their needs (Wu, Wang, & Tsai, 2010). For example, some people may use SNSs to meet their need for meeting new people, while others may use it to play games or to post photographs. While those needs or gratifications are not equally important for all types of media, the main ones include: diversion (escape from problems; emotional release), personal relationship (social utility of information in conversation; substitute of the media for companionship), personal identity (value reinforcement; self-understanding), and surveillance (McQuail, Blumler, & Brown, 1972). These categories, however, were developed to understand why people use television. U&G theory has since been applied to various new media related to communication technology. As a result, new categories have emerged explaining why people use social media.

In the last ten years a number of studies have examined uses and gratifications for Facebook use (Krause, North, & Heritage, 2014; Sheldon, 2008; Smock, Ellison, Lampe, & Wohn, 2011), Twitter (Chen, 2011; Johnson & Yang, 2009), YouTube (Hanson & Haridakis, 2008), Pinterest (Mull & Lee, 2014), Yelp (Hicks et al., 2012), and blogs (Kaye, 2005; 2010). This has resulted in new gratifications being added to explain how individuals use social media. In addition, the importance of some gratifications has changed. For example, while most people watch television for entertainment purposes, most people use social network sites to maintain relationships (Sheldon, 2008). Some social network sites (e.g., LinkedIn) satisfy professional advancement needs, while others allow individuals expressive-information sharing (as cited in Smock et al., 2011). In addition, Whiting and Williams (2013) identified several uses and gratifications of social media that did not exist when the original U&G theory was developed. This includes convenience, expression of opinion, and knowledge about others.

Considering the nature of Instagram as a mobile photo-sharing and video-sharing site, it is likely that new gratifications might be related to its use as well. Mull and Lee (2014) studied motives for Pinterest use and found five main motivations, most of them not identified in previous SNS studies. The five motivations for Pinterest usage are fashion, entertainment, creative projects, virtual exploration, and organization. Most participants identified fashion as the main reason for Pinterest use. Fashion included items such as style, outfits, clothing, and shopping. Creative projects had not been identified in previous U&G literature either. In terms of creative projects, the most popular boards are those that include crafts and do-it-yourself (DIY) projects. Another motivation for Pinterest use was virtual exploration. The items such as inspiration, ideas, and learning indicated that Pinterest users want to use the site to explore and look for new things. Virtual exploration is related to McQuail et al.'s (1972) motivation of information. Users may not be specifically looking at Pinterest to learn new things, but by searching for interesting ideas they will obtain knowledge in passing. The last motivation found was organization. Users want to use Pinterest because it gives them a place to organize their images and have them all in one location (Mull & Lee, 2014). This motivation has also not been identified in previous U&G studies.

In one of the few Instagram studies, Marcus (2015) found that,

compared to other SNS sites, Instagram is based more on one's personal identity rather than relational identity. Marcus analyzed the images that five individuals, ages 22—25, posted on Instagram, and concluded that Instagram exists for people to self-promote — and, unlike Facebook, it does not focus on social relationships as much. One of the more popular kinds of posts were "selfies," which are photographs that individuals take of themselves, typically with a webcam or smartphone. Selfies elucidate one's individuality, according to Marcus (2015). Marcus states that Instagram offers opportunities for people to engage in the social media community as well. One way that social engagement takes place is through the practice of hashtagging. Hashtags can be seen by all people on Instagram, therefore contributing to the social media community.

Highfield (2015) studied the use of Instagram hashtags to post about a Eurovision contest in Australia. Eurovision is the annual TV song competition held among the members of the European Broadcasting Union. Eurovision has a cult following, and it is often watched for its kitschy nature. Although Australia cannot participate in Eurovision, there are a lot of Eurovision fans in the country. Highfield (2015) manually coded 1807 Instagram images made by Australian users in order to understand how people use a visual medium like Instagram to document their television viewing experience and today's popular culture. The results showed that almost one-quarter of images included selfies. Users also used the #sbseurovision hashtag more as the contest came closer to the end. This is likely due to more interest from the audience as the competition gets closer to the finals. In addition, most people posted images that included other people, thus sharing their social experiences of Eurovision. Almost half of the posts included more than one person. Compared to Twitter and the fleeing nature of tweets, Highfield (2015) concluded that images on Instagram last longer though even they are not posted as frequently as tweets. Instagram is also a more personal social media that includes selfies and photos of people's homes. Conversely, Twitter is not as intimate as people do not see those aspects.

Both Highfield (2015) and Marcus (2015) used a content analysis of a limited number of photos from profiles that were publicly available. They did not analyze the profiles that were set to private. Marcus, whose sample size was small, suggested studying the motives behind particular posts. Therefore, in this study, we use survey data to answer the following research question:

RQ1: What are the motivations for using Instagram?

1.2. Social/psychological predictors

U&G theory suggests that factors such as one's social and psychological circumstances, motives, and expectations influence media use and effects (Katz et al., 1974). However, "no single factor is theorized to drive media use; it is the interaction among needs, individual differences, and social context that predicts use" (Lucas & Sherry, 2004, p. 503).

Contextual age. Researchers have observed that contextual age influences mass mediated and interpersonal communication (Papacharissi & Rubin, 2000; Rubin & Rubin, 1992). Rubin and Rubin (1982) found that socially active, self-reliant seniors display little affinity with television, while the opposite was true for less mobile and less healthy seniors. Individuals who were less satisfied with their lives used television as a means of escape and had a higher affinity with it. Papacharissi and Rubin (2000) found that those who were more satisfied with life and comfortable with interpersonal interaction preferred more information seeking via the Internet. Conversely, those who were less satisfied with life used the Internet as a functional alternative to interpersonal communication and to pass time.

Sheldon (2014a, 2014b) studied the contextual age indicators

relationship to the motives for playing Facebook games and the amount of time spent playing. Results showed that individuals who were less satisfied with their lives played Facebook games more often. Sheldon (2014a, 2014b) speculates that those less satisfied with their lives perceive Facebook games as a way of "escape" or diversion from the real world. Games are fun and are often seen as a substituted entertainment for more expensive options that might include hanging out with friends (e.g., movies). Is it then possible that individuals who are happy with their lives would use Instagram less often than those who are not satisfied with their lives? Would they use it to check on other people's photos, or would they use it to express one's identity? Another construct—social activity - might be related to Instagram use as well. Participants who travel and take trips with others might be more inclined to share their photographic memories with others.

Narcissism. Several studies have looked at the relationship between narcissism and Facebook use. Narcissism is a personality trait that entails a person having an exaggerated self-concept, a high level of self-importance, and a desire to be admired (Buffardi & Campbell, 2008). People that are defined as narcissists typically think that they are better than other people, special, and unique (Sheldon, 2015). Narcissists prefer online communities consisting of shallow relationships, as they have complete control over their self-presentation - which means that they can present themselves in an indefinite number of ways (Manago et al., 2008; Sheldon, 2015).

When it comes to photo-sharing on SNSs, several studies have found that narcissists might be more inclined to engage in those activities. For example, Kapidzic (2013) found that on Facebook, narcissists are more likely to post profile pictures that accentuate their attractiveness. Narcissism was positively related to the frequency of posting personal photographs on Facebook, as well as to liking and commenting on friends' photos (Sheldon, 2015). Mendelson and Papacharissi (2010) discovered that a great deal of photos on Facebook were comprised of "selfies," and comments on the photos acted as a form of reinforcement in terms of group cohesiveness. Considering the lack of research on who the people using Instagram are, the following research questions were asked:

RQ2a: How do contextual age and narcissism relate to motives for Instagram use?

1.3. Behavioral outcomes

Instagram use. Papacharissi and Rubin (2000) have emphasized the importance of studying behavioral outcomes of Internet use, primarily the amount of use. Most SNS studies have measured the amount of time users spent on the site (e.g., Sheldon, 2008). Instagram has a hashtag (#) function that allows users to tag their photo so that other users can find the photographs. Instagram also offers a number of special filters that allow the user to change the colors and resolutions of the photographs before they post them. This editing function might be related to the narcissism trait. The amount of time spent on Instagram, the frequency of using hashtags, and the amount of time spent editing photos might be relevant to the study of Instagram. Considering that there is not much research about Instagram, the following question is asked:

RQ2b: How do contextual age, narcissism, and motives predict behavioral outcomes of Instagram use (time spent on Instagram, the frequency of hashtags, and time spent editing photos before posting)?

Finally, we were interested in which of these variables could best predict why people do not use Instagram:

RQ3: Which of the aforementioned factors (contextual age, narcissism, demographics) can best predict why people do not use Instagram? (Fig. 1).

2. Methods

2.1. Participants and procedure

Participants were 239 undergraduate students, including 104 men and 133 women, ranging in age from 18 to 52 (mean age = 22.6; SD = 5.27). Approximately 73% of the participants were self-identified as Caucasian, 13% African American, 3% Asian American, 1% Native American, 3% Hispanic, while the remaining participants (7%) did not fit into provided categories.

Following Institutional Review Board approval, participants were recruited through classes offered at a southern American research university in the academic year 2014–15. Some participants received extra credit for their participation. They were first asked a series of demographic questions. Next, all participants answered the narcissism, life satisfaction, social activity, and interpersonal interaction questions. Participants were then asked whether they use Instagram. In order to continue with questions about their Instagram use, they had to be active Instagram users. Of the total number of participants, 163 used Instagram (54 men and 109 women), and 76 did not use it. Women were more likely to use Instagram; $\chi2$ = 27.35; p < 0.001.

2.2. Measures

2.2.1. Contextual age

The Rubin and Rubin (1982) life position scale was used to measure life satisfaction, interpersonal interaction, and social activity. Physical health, economic security, and mobility were not included in this study as we predicted that they do not relate to college students' lives. Interpersonal interaction was measured using three items: "I get to see my friends as often as I would like," "I spend enough time communicating with my family or friends by telephone or e-mail," and "I have ample opportunity for conversation with other people." All of the responses were measured on a 5-point Likert scale (1 = *strongly disagree;* 5 = *strongly agree*). Responses to all three items were averaged and summed into a subscale. The mean for the interpersonal interaction dimension was 3.54 (SD = .81; Cronbach's α = 0.71). To measure life satisfaction, respondents reported their agreement with three statements (1 = *strongly disagree*; 5 = *strongly agree*): "I find a great deal of happiness in my life," "I have been very successful in achieving my aims or goals in life," and "I am very content and satisfied with my life." The internal consistency analysis revealed that the first item contributed to a low reliability, so that one was excluded from further analysis. We then summed and averaged responses of two items. The mean for the life satisfaction dimension was 3.82 (SD = .78; Cronbach's α = 0.78). Next, social activity was measured using three items: "I often travel, vacation, or take trips with others," "I often visit with friends, relatives, or neighbors in their homes," and "I often participate in games, sports, or activities with others." Responses were averaged and summed into a subscale. The mean scores for the social activity dimension was 3.38 (SD = .85; Cronbach's α = 0.70).

2.2.2. Narcissism

The 10-item Hypersensitive Narcissism Scale was used to measure participants' covert narcissism score (Hendin & Cheek, 1997). This measure was derived from Murray's (1938) Narcissism Scale by correlating the items of Murray's (1938) original scale with an MMPI-based composite measure of covert narcissism. All of the items were measured on a 5-point Likert scale (1 = *strongly disagree;* 5 = *strongly agree*). Sample items include: "I can become entirely absorbed in thinking about my personal affairs, my health, my cares, or my relations to others," and "My feelings are easily hurt
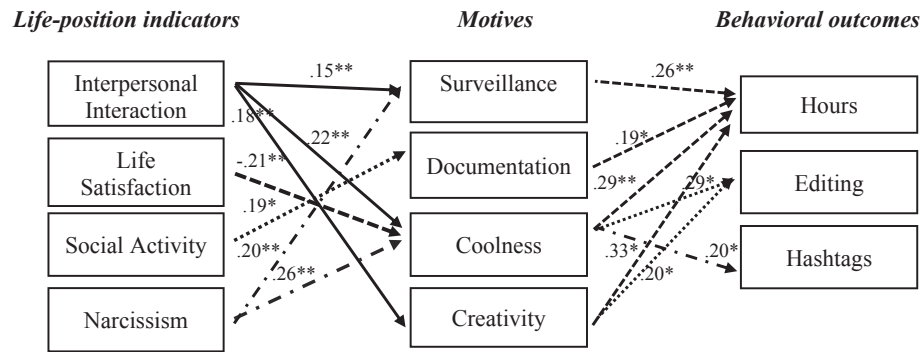
Note: * indicates significant correlations (*p* < 0.05; **p* < 0.01)

Fig. 1. Model of influences on Instagram use.

by ridicule or the slighting remarks of others." The internal consistency of the scale showed that participants could not relate to one of the scale items ("I easily become wrapped up in my own interests and forget the existence of others"), so that one was deleted. The remaining 19 items were summed into a subscale. The mean score for narcissism was 2.70 (*SD* = .56; Cronbach's α = 0.70).

2.2.3. Instagram uses and gratifications

A pool of gratification items was assembled from a focus group that the primary investigator conducted with undergraduate students to find out why they use Instagram. Overall 20 different reasons were included in the questionnaire. Survey participants had to answer how often (from 1 = *never* to 5 = *always*) they used Instagram for the given reasons. An exploratory factor analysis was used to extract and interpret motives for Instagram use. The factor analysis used a principal component solution and varimax rotation and specified the retention of factors with eigenvalues greater than 1.0. This resulted in four factors that accounted for 59.46% of the variance (Table 1).

2.2.4. Instagram use

Instagram use was measured as the amount of Instagram use in

hours and minutes per day, the amount of time spent editing the photos before uploading them on Instagram, as well as the frequency of using Instagram hashtags (response options ranged from 1 = *never* to 5 = *always*). Students reported that, on average, they spent 1.14 h a day on Instagram (*M* = 1.14; *SD* = 1.10). They spent a little over 6 min on editing the photos before posting them for others to see (*M* = 6.31; *SD* = 13.04). On average, most participants reported that they "sometimes" use hashtags (*M* = 2.53; *SD* = 1.19).

2.2.5. Demographics

Participants answered the questions about their sex, age, and their ethic/racial group.

3. Results

3.1. RQ1: motives for Instagram Use

The first research question asked for the motives of Instagram use. Results of the factor analysis yielded four interpretable factors or motives for Instagram use (see above and Table 1). The four factors were defined as: Surveillance/Knowledge about others, Documentation, Coolness, and Creativity. The Cronbach's alpha

Table 1
Motives for Instagram use: Primary factor analysis.

	Loading	Eigenvalue	Variance	α
Factor 1: Surveillance/knowledge about others				
To interact with my friends.	.72			
To see "visual status updates" of my friends.	.67			
It is fun.	.59			
To follow my friends.	.81	7.17	35.85	.86
To see what other people share.	.78			
To "like" my followers' photos.	.69			
To creep through other people's posts.	.41			
Factor 2: Documentation				
To depict my life through photos.	.56	1.95	9.76	.83
To remember special events.	.83			
To share my life with other people.	.52			
To document the world around me.	.57			
To commemorate an event.	.79			
To remember something important.	.72			
Factor 3: Coolness				
To become popular.	.79	1.58	7.88	.72
It is cool.	.62			
To self-promote.	.57			
To provide "visual status updates" for my friends.	.45			
Factor 4: CREATIVITY				
To find people with whom I have common interests.	.62	1.20	6.03	.67
To create art.				
To show off my photography skills.	.66			
	.84			

values for all four factors indicated good internal consistency of the items in the scales.

Factor 1 was labeled *Surveillance/Knowledge about others* (eigenvalue = 7.17). It contained seven items (e.g., "To interact with my friends," "To see 'visual status updates' of my friends," "To follow my friends," "To see what other people share," "To 'like' my followers' photos," "To creep through other people's posts" and "It is fun") and accounted for 35.85% of the total variance after rotation. This factor was originally proposed by Whiting and Williams (2013) and defined as watching what others are doing ("creeping through other people's posts").

Factor 2, *Documentation* (eigenvalue = 1.95), contained six items (e.g., "To depict my life through photos," "To remember special events," "To document the world around me," "To commemorate an event," "To remember something important," "To share my life with other people") and accounted for 9.76% of the total variance. According to the authors' knowledge, this motivation is unique to this study. There have been no previous studies that explicitly identify this gratification. Therefore, it can be concluded that this is a distinct difference for Instagram as compared to traditional SNSs.

Factor 3, *Coolness* (eigenvalue = 1.58), consisted of four items (e.g., "To become popular," "It is cool," "To self-promote," and "To provide 'visual status updates' for my friends") and explained 7.88% of the total variance. This factor was named "Coolness" following the terminology of previous studies (e.g., Charney & Greenberg, 2001; Sheldon, 2008).

Factor 4, *Creativity* (eigenvalue = 1.20), consisted of three items (e.g., "To find people with whom I have common interests," "To show off my photography skills," and "To create art") and explained 6.03% of the total variance. Mull and Lee (2014) found that "creative projects" were one of the reasons people use Pinterest — however, only for searching for and sharing the ideas for a do-it-yourself project. In this study, creativity is defined as showing off one's skills and finding people who have similar interests. This is a new gratification not identified in previous research. Table 2 summarizes the item wording and descriptive statistics for each motive.

Table 2
Motives for Instagram use: Measures of central tendencies.

	M	SD
Factor 1: Surveillance/knowledge about others		
To interact with my friends.	3.63	1.06
To see "visual status updates" of my friends.	3.54	1.14
It is fun.	3.52	1.07
To follow my friends.	3.65	1.12
To see what other people share.	3.61	1.03
To "like" my followers' photos.	2.90	1.19
To creep through other people's posts.	3.26	1.33
Factor 2: Documentation		
To depict my life through photos.	2.98	1.09
To remember special events.	3.53	1.11
To share my life with other people.	3.56	1.04
To document the world around me.	2.91	1.23
To commemorate an event.	3.46	1.11
To remember something important.	3.12	1.19
Factor 3: Coolness		
To become popular.	1.74	.92
It is cool.	2.92	1.33
To self-promote.	2.10	1.10
To provide "visual status updates" for my friends.	2.87	1.21
Factor 4: Creativity		
To find people with whom I have common interests.	2.48	1.31
To create art.	2.48	1.44
To show off my photography skills.	2.21	1.24

*means for a 5-point scale (never = 1; rarely = 2; sometimes = 3; often = 4; always = 5).

3.2. RQ2: contextual age, narcissism and Instagram Use

The second research question asked if there was a relationship between contextual age, narcissism, and Instagram use (motives and behavioral outcomes). Pearson product—moment correlations were computed to answer this question. Results revealed that there were multiple significant relationships (Table 3). First, interpersonal interaction was positively related to Instagram use for creative purposes, coolness, and surveillance. The social activity factor was positively related to documentation uses of Instagram. Life satisfaction was negatively related to using Instagram to be cool. Similarly, narcissism was positively related to using Instagram to appear cool and for the surveillance of others. When it comes to behavioral outcomes, only narcissism was positively and significantly related to the amount of time participants spent editing the photos before posting them on Instagram.

When it comes to the relationship between the motives (gratifications sought) and outcomes (gratifications obtained), there was a positive and significant relationship between all of the motives and the number of hours participants spent on Instagram. Also, the frequency of using hashtags was related to the motive of coolness. Time spent on editing photos was also positively and significantly related to the motives of coolness and creativity (Table 3).

Three hierarchical multiple regressions were conducted to understand which of the life-position indicators and motives had the most influence on the behavioral outcomes of Instagram use. Gender was also included as a predictor. Results showed that gender was the strongest predictor of the amount of time spent on Instagram, explaining 5% of variance, followed by the surveillance motive (explaining 4% of variance), the creativity motive (explaining 4% of variance), and life satisfaction (explaining 3% of variance) (see Table 4). When it comes to the frequency of using hashtags, two variables emerged as the significant predictors: the coolness motive (explaining 3% of variance) and the surveillance or knowledge of others (explaining 2% of variance) (see Table 5). The coolness motive was also the most significant predictor of the amount of time spent editing photos before posting them on Instagram. It explained 12% of the variance. The next significant predictor was narcissism, explaining 3% of variance (see Table 6).

3.3. RQ3: predictors of Instagram use

A discriminant analysis was conducted to investigate which variables best discriminate between users of Instagram and non-users of Instagram. To remind, there were 163 Instagram users in this study, and 76 non-users. The Instagram account was taken as the predictor variable, and contextual age (interpersonal interaction, life satisfaction, social activity), narcissism, and gender were taken as the criterion variables. The analysis indicated that gender could best predict why an individual chooses to create an Instagram account. A previous analysis showed that women were more likely to be on Instagram. The second most important factor was social activity. Less active individuals would be less likely to have an Instagram account (Wilks' lambda = .83, p < 0.0001, R^2_c = .41). Table 7 presents the relative importance of independent variables in predicting the non-use of Instagram.

4. Discussion

4.1. RQ1: motives for Instagram Use

Four motives were produced as a result of the analysis, and include "Surveillance/Knowledge about others," "Documentation," "Coolness," and "Creativity." Of the four motives, "Surveillance/ Knowledge about others" was the most influential reason behind

Table 3
Correlations among life-position indicators, narcissism, motives for Instagram use, and behavioral outcomes.

	1	2	3	4	5	6	7	8	9	10	11
1. Interpersonal interaction	–										
2. Social activity	.33**	–									
3. Life satisfaction	.15*	.29**	–								
4. Narcissism	−.05	−.26**	−.23**	–							
5. Motive − surveillance	.19*	.03	−.05	.20*	–						
6. Motive − documentation	.14	.19*	.00	.02	.52**	–					
7. Motive − coolness	.22**	.02	−.21**	.26**	.70**	.48**	–				
8. Motive − creativity	.18*	.14	−.05	.04	.38**	.40**	.39**	–			
9. Hours on Instagram	.04	.05	−.12	.07	.26**	.19*	.29**	.33**	–		
10. Frequency of hashtags	−.10	−.04	−.06	−.04	.13	.15	.20*	.11	.19*	–	
11. Frequency of editing photos	−.03	.07	−.06	.15	.12	.08	.29**	.20*	.07	.05	–

Note. *p < 0.05; **p < 0.01; two-tailed.

Table 4
Hierarchical multiple regression analysis predicting the number of hours spent on Instagram.

Predictor	B	β	R^2	ΔR^2
Gender	.51**	.22**	.05**	.05**
Interpersonal interaction	.07	.05	.05	.00
Social activity	.06	.04	.05	.00
Life satisfaction	−.25**	−.18**	.08**	.03**
Narcissism	.11	.06	.08	.00
Motive − surveillance	.27*	.20*	.12*	.04*
Motive − documentation	.04	.03	.12	.00
Motive − coolness	.28	.22	.14	.02
Motive − creativity	.24*	.22*	.18*	.04*

Note: *p < 0.05; **p < 0.01.

Table 5
Hierarchical multiple regression analysis predicting the frequency of hashtags.

Predictor	B	β	R^2	ΔR^2
Gender	−.07	−.03	.00	.00
Interpersonal interaction	−.15	−.10	.01	.01
Social activity	−.01	−.01	.01	.00
Life satisfaction	−.07	−.05	.01	.03
Narcissism	−.10	−.05	.02	.00
Motive − surveillance	.26*	.18*	.04*	.02*
Motive − documentation	.23	.16	.06	.02
Motive − coolness	.35*	.25*	.09*	.03*
Motive − creativity	.10	.09	.09	.00

Note: *p < 0.05; **p < 0.01.

Table 6
Hierarchical multiple regression analysis predicting the amount of time spent editing photos.

Predictor	B	β	R^2	ΔR^2
Gender	1.89	.07	.01	.01
Interpersonal interaction	−.28	−.02	.01	.00
Social activity	1.69	.11	.02	.01
Life satisfaction	−1.10	−.07	.02	.00
Narcissism	4.04*	.19*	.05*	.03*
Motive − surveillance	1.0	.07	.06	.01
Motive − documentation	−.59	−.04	.06	.00
Motive − coolness	7.60**	.52**	.18**	.12**
Motive − creativity	1.58	.13	.19	.01

Note: *p < 0.05; **p < 0.01.

Table 7
Variables predicting non-use of Instagram.

Predictor	Non-Instagram use
Gender	.79**
Social activity	.69**
Narcissism	.21
Interpersonal interaction	−.25
Life satisfaction	−.13

Note: *p < 0.05; **p < 0.01.

Instagram use. This notion confirms that many people use social media forums to keep up with or gain knowledge about what others (i.e. friends, family, and strangers) are doing. The motive of "Surveillance/Knowledge about others" is closely related to a motive McQuail (1983) identifies as information seeking. Muntinga, Moorman, and Smit (2011) even find surveillance to be a "sub-motivation" of the information motive. Whiting and Williams (2013) actually named surveillance/knowledge about others as one of the motives for social media use. It included watching what others are doing. Similarly, in this study the "knowledge about others" dimension reflected following and "liking" other people's posts. Information ranging from one's socio-economic status, relationship status, amount of friends, etc. can easily be found through an Instagram profile. Granted, as with other forms of social media, the information that an Instagram user posts is subject to what he or she chooses to display publicly. However, as long as an Instagram user's profile is public, he or she is subject to having pictures viewed by anyone ranging from friends to strangers. In a matter of moments, one can click on a person's profile and scroll through days, months, or years of posts.

The second most important motive was "Documentation." In terms of results found in other various literature, the discovery of "Documentation" as a motive appears to be unique to this particular study. The reasoning behind Documentation surfacing as a potential motive in this study is likely due to the characteristics of Instagram that set it apart from other social media forums. For instance, Instagram primarily focuses on images or pictures whereas Twitter is a more text-based forum. When people want to document moments of their lives, they are more likely to post a picture on Instagram rather than compose a tweet about such events (Highfield, 2015). In addition, Instagram allows users to provide both a picture and text as there is an option to provide a caption underneath the image. In this way, Instagram acts as a kind of virtual photo album for many people.

The third motive up for discussion is that of "Coolness/Popularity." In terms of social media use, people are typically interested in being on a forum that is popular with their peers. Instagram is a newer form of social media and is quickly growing in reference to the amount of users that join each day. Instagram also contains features that many would consider "cool." For instance, there are an array of filters for pictures, links to "trending tags," ways to "explore posts," and opportunities to follow popular celebrities. In addition to the cool features of Instagram, users likely use this particular

social media forum for self-promotion and to gain popularity. One major goal of many Instagram users is to gain a substantial amount of "likes" on their posts. Such "likes" validate their popularity and status among their peers. In addition to the number of "likes" one receives, having a large number of followers is typically an indication of popularity. One of the psychological needs individuals have includes the need to feel seen and valued (Greenwood, 2013). Nadkarni and Hofmann (2012) discovered two basic social needs when using Facebook: the need to belong and the need for self-presentation. The need to belong might be reflected on Instagram through this motive of coolness/popularity. Social support of others, either through "likes" or "comments" through Instagram, can positively affect one's self-esteem and self-worth (Baumeister & Leary, 1995). Prior theories on psychological development of emerging adults state that young adults —or how Arnett calls them, "emerging adults" — tend to explore self-identity by seeking continuous approval from peers during the process (Arnett, 2000, 2004).

The least influential motive of the four, stemming from the analysis, is that of "Creativity." While Mull and Lee (2014) found "creative projects" to be a motive behind using Pinterest, the form of creativity that this study entails has less to do with projects and more to do with portraying skills and sharing creative posts with others. As a result, "Creativity" is a new motive that has not previously surfaced in other studies. There are ample opportunities for users to portray their creative talents on Instagram. Instagram allows users to apply filters to pictures in order to make their posts appear "artsy." Also, Instagram users have the option to post creative captions and hashtags. One potential reason that "Creativity" as a motive came about in this study is due to the fact that Instagram is a visually-based social networking site. While other forms of SNSs have many different features such as status updates, video-sharing, and more, Instagram primarily focuses on pictures.

4.2. RQ2: contextual age, narcissism, and Instagram Use

Furthermore, this study found a positive relationship between those that scored high in interpersonal interaction and using Instagram for coolness, creative purposes, and surveillance. This seems reasonable as people that communicate with family and friends more often want to use a form of SNS that is popular (the cool factor), want to portray their creative skills (to obtain social reinforcement through "likes" and comments), and also want to keep up with their friends (through surveillance).

Another interesting finding shows that there is a positive relationship between high levels of social activity (traveling, going to sporting events, visiting friends, etc.) and being motivated to use Instagram as a means of documentation. This positive relationship reflects that those who travel or attend events often take many pictures and want to document their memories. Instagram is an ideal form of SNS to document memories on as the forum is primarily based on visuals such as photos and videos. Storing memories on Instagram also appears to be a safe way to "back up" the pictures and videos that were taken from a particular trip or event. Actually, a study (socialbakers, 2013) of a random sample of 5000 Facebook pages revealed that photos are the most engaging post types on Facebook as well, accounting for 93% of activities done on the site.

In reference to narcissism, there was a positive relationship between using Instagram to be cool and for surveillance. Narcissists wish to be perceived in a positive light, which explains why they use Instagram in an effort to appear "cool." In this way, narcissists can post and manipulate specific photos to make themselves and their lives appear to be a certain way. Instagram appeals to narcissists, because many interactions on it are "surfacy" or shallow.

For instance, most people scroll through pictures, double-click to "like," then move on to the next picture. In a recent study of college students, Sheldon (2015) found that narcissism is related to how often students comment on and "like" their friends' Facebook photos. This activity might help the person who liked the photo gain popularity among other friends who saw that they "liked" it. Similar things appear to occur on Instagram. "Selfies," or photographs that users take of themselves with a smartphone, are very popular on Instagram and Facebook. Selfies have been described as a symptom of social media-driven narcissism (Weiser, 2015). However, as Weiser (2015) found, that narcissism is not necessarily a bad thing. In his study, leadership/authority and grandiose exhibitionism contributed significantly to the prediction of selfie-posting frequency, while the entitlement dimension did not. This study shows that narcissism is positively and significantly related to the amount of time that participants spend editing photos before posting them to Instagram. This finding confirms what was previously stated in that narcissists wish to be thought of positively.

Furthermore, there was a negative relationship between life satisfaction and using Instagram to appear cool. deOliviera and Huertas (2015) found that an individual who is satisfied with his life will be more motivated to use Facebook because of the perceived social pressure to engage in this behavior. This perceived social pressure might relate to the motive of coolness, which would explain why Instagram users who score lower on life satisfaction are more likely to use the social medium to appear cool. While some previous studies have found (e.g., Valkenburg, Peter, & Schouten, 2006) that those who actively participate in social networks like Facebook feel happier, this study did not find a relationship between life satisfaction and the amount of time spent on Instagram.

In terms of motives, there was a positive and significant relationship between each motive and the amount of time participants spent on Instagram. More specifically, using hashtags on a regular basis was related to the "Coolness" motive. Because Instagram is a newer and growing form of SNS, using hashtags on such a forum is one particular way in which users can appear "cool" to their peers. In addition, the time that participants spent editing photos significantly related to motives of both "Coolness" and "Creativity." Such a positive relationship is understandable as Instagram users spend time editing photos to make their posts appear "cool" and also to portray their creative abilities. Such creative abilities could be shown through choosing particular filters, adding text to photos, highlighting, etc.

4.3. RQ3: predictors of Instagram Use

Out of all variables in the present study to determine between users and non-users of Instagram, gender was found to be the best predictor. The analysis shows that women are more likely to be active on Instagram as opposed to men. This notion has also been confirmed by previous studies, especially those focusing on Facebook use (Sheldon, 2008; 2015). Not only do women have more Facebook friends, they also spend more time communicating with them (Acar, 2008; Sheldon, 2008). Overall, SNSs appeal to women more than men, but this is even more true with visual platforms such as Instagram. In general, women care about personal relationships more than men. By commenting on their friends' photos, women are sending a message that they "care." Bond (2009) found that females are also more likely to post Facebook photos that include images portraying family and friends, while male participants uploaded more sports-related photos. Coming in second to gender, social activity was another factor that contributes to the prediction of whether people use Instagram or not. People who are not as active are less likely to have Instagram accounts.

4.4. Theoretical contributions

Theoretical contributions of this study relate to our understanding of uses and gratifications theory. First, this study uncovers new motives for social media use not identified in previous uses and gratifications theory literature. Documentation and creativity are two reasons why students use Instagram that are not identified in previous U&G studies on social media use. Two other motives include surveillance/knowledge about others and coolness. Surveillance was the main reason participants used Instagram. This is different from the main reason for using Facebook (Krause et al., 2014; Sheldon, 2008; Smock et al., 2011), Twitter (Chen, 2011; Johnson & Yang, 2009), YouTube (Hanson & Haridakis, 2008), or Pinterest (Mull & Lee, 2014).

Furthermore, this study makes an important contribution to understanding which contextual age indicators can best predict how and why a person chooses to create an Instagram account. Social activity emerged as one of the most important predictors of why people use Instagram. Instagram was also appealing to narcissists. Life satisfaction negatively predicted the use of Instagram to appear cool. As Rubin and Rubin (1992) found, control predispositions and life situation significantly influence people's motives for interacting with others. This again confirms the uses and gratifications theory assumption that one's social and psychological circumstances influence media use and effects (Katz et al., 1974). However, this study further emphasizes the importance of studying not only the amount of time spent with social media and Instagram, but what the user does with it. As evident from our results, different psychological and social circumstances (life satisfaction, social activity, narcissism) may reinforce different behavioral tendencies (in terms of motives for Instagram use) that ultimately trigger different behavioral outcomes (the number of hours spent on the site, editing photos, using hashtags).

4.5. Limitations and future research

This study has several limitations. The first limitation is the small sample size of nonusers of Instagram. A bigger sample would allow for a more sophisticated statistical analysis. Next, participants were recruited through convenient non-random sampling. Thus, generalizations cannot be made about the whole population. In addition, this study was conducted in the United States. Due to the survey methodology, we cannot establish a causal relationship between Instagram use and contextual age and narcissism. Future research should try to explore if there are other motivations for Instagram use, as our study uncovered only four. They could also test how other personality predictors relate to Instagram use. Future studies should also include Instagram users from other countries. As it is, we have learned that the reasons for using Instagram are somewhat unique and different from the reasons for using Facebook and other social media sites. Instagram is used to document one's life, thus making it similar to scrapbooking and creating traditional photo albums.

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