

Instagram and the Self: How our online interactions shape us

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Abstract

Photography has served as a medium for documentation and sharing of experiences. The way humans take and share photography has changed since the creation of social media. Image-based social media like Instagram have provided a new platform to share and interact with photography. Today, one no longer needs to be a professional photographer in order to reach millions of viewers. Instagram allows users to share a photo to reach the one billion active monthly users at the tap of a screen (Aslam, 2018). Instagram as a platform has created a new medium for social engagement and social comparison on a scale that has not been seen before. People are closer to the application than ever before. Humans have access to their phone nearly all day and are no further than a reach into their pocket away from opening up the application. Through the lens of social comparison theory, heavy use of Instagram brings users to create social comparisons every time they scroll through a feed. Through qualitative interviews, users of Instagram explained how and why they use the application and created a better understanding of the effects this platform is causing on self-esteem. The value of which a user gives to the application and the social engagement that happens within it generates the magnitude of which it is able to impact their self-esteem.

Keywords: Instagram, social comparison theory, social engagement, photography

Introduction

Social media has become increasingly more prevalent in our lives. Social media provides a platform to share whatever users want. In many cases, social media users are sharing artwork, and increasingly photography. As technology advances, we have greater and easier access to high-quality photographs. In 2000, Kodak announced that the world took 80 billion photos (Heyman, 2015). In 2017, the world took a staggering 1.2 trillion (Cakebread, 2017). This drastic increase in photographs being taken can partly be explained by a relatively lower barrier of entry to the field of photography today. Individuals no longer need an expensive digital single lens reflex camera (DSLR) to take a stunning photo.

Smartphone cameras are getting better every year with a large increase in quality over the past five years (Rehm, 2018). Smartphones can make manual micro adjustments to photographs, a feature that was once only found on more sophisticated cameras (Rehm, 2018). The ability now to take high-quality photos has become widely available to everyone, not just the person with the top of the line DSLR. As society now has better access to higher quality image taking devices, they can capture the moments around them much more easily. As people go about everyday life, they can now capture special moments in their lives instantaneously. Instagram became a platform to share these special moments with others and now has over 100 million photos and videos uploaded every day (Aslam, 2018). As society has adopted the technology necessary to capture higher quality photos through cameras and camera phones, more special moments are being captured and shared on social media.

As individuals take more photos, they have a growing incentive to share these photos on social media. This incentive to share can be inferred by Instagram's growth since the application was created in 2010. The number of photos shared has increased drastically, now with over 100

million photos and videos being shared daily (Aslam, 2018). Teenagers, the largest user base of Instagram (Aslam, 2018) explained to the *New York Times* that one needs to post often enough to stay relevant, increasing the incentive to share on social media (Heitner, 2017). Instagram and social media platforms in general act as a place to share digital content and engage with other users. Social media platforms have been engineered to keep users coming back and wanting to interact (Farrell, 2018). This intentional design is made to keep all users returning to the applications, but this design is affecting a certain part of the population much more. 65% of the population is visual learners (Bradford, 2004) and it has been well documented that visually oriented social media content receives more engagement (Gillett, 2014). Instagram caters to a notably younger demographic, as 72% of teens use Instagram (Aslam, 2018). This popularity can be explained by “tweens” preference for visual rhetoric as a communication medium (Lomas, 2017). Social media overall has focused on the younger demographic. One of the main reasons for this intense focus is due to the marketing potential of this demographic. The demographics of “millennials” (and soon to be Generation Z) make up 1.4 trillion dollars of disposable income by the year 2020 (Speier, 2016). Companies and organizations across the globe are focusing on the long-term benefits of marketing to this generation now (Speier, 2016). This continued attention helps explain the rapid growth of popularity of the application with youth and why organizations care to keep youth on the social media platforms.

Instagram was first released in 2010 (Roberts, 2014). In the small eight-year time frame, the application grew to 1 billion monthly active users, (Aslam, 2018) making it one of the fastest growing social media. As Instagram emerged as a popular social media application, a set of unwritten rules began to surface. Given that the majority of Instagram users are teenagers, The *New York Times* interviewed middle school students to get a better grasp of the “rules of social

media” (Heitner, 2017) According to these middle school students, one must post enough to stay relevant on a timeline but not so much to the point that it becomes obnoxious (Heitner, 2017). In summary, according to the largest user base of Instagram, one must post enough to stay relevant, but not appear to try too hard. Seemingly, for young people, the key to Instagram is to create more social engagement.

There is now more empirical evidence that attempts to explain social media’s rapid growth in popularity. Recent studies have linked social media use to dopamine, a “reward molecule” (Soat 2015, para. 1). This connection between social media use and dopamine is creating a consistent user “loop”. When users post to social media they “... are creating an expectation” (Soat, 2015, para. 2). This expectation is that, when they share, they expect interaction back. When users post on social media and receive feedback, i.e. likes, comments, and shares (social engagement), it triggers the release of dopamine, which can cause users brains to seek out additional reinforcement and post more.

Humans are “wired” to make comparisons/judgments and to desire, connection. In most cases, humans make relevant comparisons, which are typically done with peers or equals (Strahan, Wilson, Cressman, & Buote, 2006). In most cases, they are done to “build ourselves up” with the exception of body image (Strahan, Wilson, Cressman, & Buote, 2006). Humans are constantly being bombarded with the ideal body type and in most cases it is an irrelevant comparison (a comparison that is not of an equal or peer, i.e. a supermodel has a body type that not many are able to achieve due to genetics and body shape, yet people make that the “beauty standard”). This does not stop people from making the comparison and eventually having it affect their self-esteem.

Many studies have focused on self-esteem as it relates to Facebook, but few studies have focused on Instagram, one the fastest growing social media platforms and one of the largest repositories of photographs in the world, already having over 50 billion photographs total in the short eight-year lifespan (Aslam, 2018). Studies have been conducted on social media and the self-esteem of young children, but studies have not yet focused on the age group (Millennial and Generation Z) that has been using Instagram since it began.

Few studies in existing literature have examined this phenomenon using qualitative approaches. Many studies have been able to make statistical inferences about quantitative data in the existing research on social media, but the gap lies in gaining a stronger reflective and descriptive view of the phenomena. Studies have used social comparison theory as a lens to view self-esteem, but mainly for body comparisons of celebrities and athletes through news media (Fardouly, Diedrichs, Vartanian, & Halliwell, 2015).

This paper examines how social engagement influenced the self-image of 18–22-year-old Instagram users, given that they are more active on this platform than any other age group. By taking a qualitative approach to research, the PI received a level of depth and description not attainable from quantitative studies. The PI grasped real-life reactions and experiences with social engagement on Instagram. The PI conducted in-depth interviews that dug deeper into how social engagement on Instagram affected self-esteem. Interviews with individuals provided depth and personal experience that quantitative studies cannot obtain. These interviews were conducted with the age range of 18–22-year-old young adults. This is one of the most active ages on Instagram and provided valuable insight that quantitative research can miss.

This paper will shed more light on the culture of Instagram and why people desire to use social media as often as they do. Social comparison theory will provide valuable insight into

social engagement and social comparisons on a platform that provides endless comparisons, and furthermore question how preconceived expectations of social engagement affect self-esteem among young adults.

Literature Review

Whether it is comparing store brand and name brand products at the grocery store, comparing two competitors of technology, or at its most basic form, social comparison, humans make comparisons all the time. Social comparison is a way for individuals to evaluate themselves and their abilities against others. Social comparison is done by viewing similar (relevant) others and observing and comparing abilities, status, and standing with oneself. People make social comparisons for many reasons; to self-evaluate, measure growth, and find similarities. Humans continue to have a biological need for connection and engagement. Babies require touch for development. Harlow (1959) did a famous study with rhesus monkeys testing an old idea that intimacy between a mother and child was developed from feeding. The study found this to not be true. Rather, it was physical contact and touch that drove this bond (Harlow, 1959).

Social media has become more present in society and is providing the means for comparisons in ways that have yet to be seen. Social media has changed the way people interact and connect, the way people share photos and the way people compare. What started out as a space to curate ones identity for the world to see has evolved into so much more: photo sharing, snapshot sending, liking, commenting, and engaging - from simple design to intentional engineering to keep the user coming back for more.

This literature review will discuss the history and importance of social comparison theory, how the theory has been used in past research, and the key insights as it applies to this

research. Next, it will discuss the social engagement and interaction, identify important terms, how it has been used in research in the past, and insights of the previous studies. The literature review will end with social media. It will start broadly by identifying terms and how it was originally studied as a communicative phenomenon. It will then segue to how social media has grown into a form of visual rhetoric, and eventually how Instagram came to be.

This study will further advance communication research as it is taking a different approach to social media study. Instagram has yet to be viewed by the social comparison theory, and the effects of social engagement on self-esteem on Instagram have not been thoroughly researched. The qualitative research approach will bring valuable insight that quantitative research has been unable to address.

Social Comparison Theory

Leon Festinger (1954) first introduced social comparison theory in 1954. The study was comprised of nine hypotheses (Festinger, 1954). Festinger believed that humans had an internal drive for evaluation of one's opinions and abilities. His theory went on to show how humans would go about fulfilling this drive in different contexts. It was found that humans would seek out an evaluation of their opinions and abilities by comparing the opinion and abilities of others (Festinger, 1954). Festinger pointed out that to accurately evaluate oneself, the comparison needed to be with someone who had similar abilities. Once the level of ability grew either too high or low¹ for the comparison, one could not make an accurate evaluation by social comparison (Festinger, 1954).

¹ A high comparison is with a person above i.e. a young athlete using a professional athlete to self-evaluate athletic ability. A low comparison is the opposite, i.e. a business CEO making a comparison with a third grader to self-evaluate intelligence.

Festinger's theory was further developed in many ways since the first paper was written in 1954. Wilson and Ross (2000) conducted research that showed humans also looked internally for self-evaluation. Under certain circumstances, they will use a "temporal-self" to make an accurate evaluation (Wilson & Ross, 2000). This means that instead of using a social comparison of an alike individual, one would look to their past self and use that as an evaluation of self-growth.

The theory of social comparison most recently has been relied on to study women's body portrayal by the media. One area the Festinger research noted was that cultural or environmental influence was an area of interest to further his research (Festinger, 1954). Strahan, Wilson, Cressman, & Buote (2006) suggest that cultural and societal norms play a large role in self-evaluations by social comparisons. They used how society viewed women's thinness and beauty as communication phenomena. As the original theory suggests, the average woman should find a professional model (the cultural standard of beauty) as an irrelevant comparison. Instead, Strahn et al. (2006) found that irrelevant comparisons became relevant because of the societal context that had been created. Strahan, Wilson, Cressman, & Buote's (2006) research also found that when women were shown pictures of professional models (models who were wearing Calvin Kline, and participants were told they were professional) or models who were not portrayed as professional (models not wearing name brand, and participants were told they were not a professional model), they had worse self-evaluations of attractiveness when they viewed the models who were not portrayed as professional.

Scholars have taken social comparison theory even further with its application to social media. Fardouly, Diedrichs, Vartanian, & Halliwell (2015) found that participants had more negative views of themselves in terms of beauty (facial, hair, skin) after spending time on

Facebook when compared to those who spent time on a beauty magazine website and the control website.

Scholars have used social comparison theory in many ways over the years. From the roots of the theory of how humans make social comparisons for self-evaluation (Festinger, 1954), to more recently how media affects women's views of body image (Fardouly, Diedrichs, Vartanian, & Halliwell, 2015). Over time the theory has grown in its applicable nature. Before the theory was used to better understand how humans make comparisons to self-evaluate and measure self-worth. This was all done in person, and not through a digital medium like social media. Social media is still very new and the implications of using social media are not fully understood. It is important to truly understand the effects of heavy social media use, especially for the heaviest users of social media. Teens are now spending more time on social media than ever before. CNN (2015) reports that teens are using social media upwards of 2 hours a day (Wallace, 2015). It is important to understand how this heavy social media use effects individuals as well as society as a whole. Social media provides a platform of social comparison on a scale not yet seen before. In the past, social comparisons would happen with those around oneself or were made by what one saw in the media. Social media and Instagram now give a platform of social comparison that never leaves one's pocket. Some teens are checking their social media over 100 times a day (Wallace, 2015), subjecting themselves to hundreds of social comparisons and self-evaluations a day. Parents, teachers, and heavy users alike could benefit from better understanding the effects of heavy social media use.

Social Interaction/ Engagement

From the moment a human is born, social engagement is necessary for survival (Porges, 2006). It is important for infants to receive touch to properly develop. Social engagement is how humans interact. Better put, humans are “wired” to interact (Cook, 2013)

Social engagement and interaction as a phenomenon have been widely studied, from the neurological effects on development for not having engagement (Young, 2008) to the way it can affect mental health (Brody, 2017). Most studies come to very similar conclusions—social engagement is important. This is most famously demonstrated by Harlow’s study with rhesus monkeys. Infant monkeys elected to stay with the robotic mother that was clothed (resembling touch of a mother) over the robot that provided food (Harlow, 1959). In essence, the infant monkeys elected engagement and the feeling of safety over food. Humans are biologically driven to have social engagement, like most biological organisms (Young, 2008). Social engagement is important for all ages and stages of life: from social development as a child, to social life as an adult. As Matthew Lieberman said in an interview with *Scientific American*, our need for social connection is just as great as our need for food and water (Cook, 2013).

Until recently, much of the existing literature reached the same conclusion that successful social engagement and interaction required close physical proximity. “To develop a social bond, individuals have to be in close proximity” (Porges pg.33, 2006). This changed with the introduction of social media. Social media provided a platform to connect and create social bonds without proximity. Applications like Facebook have groups and communities that one can join and participate in, regardless of proximity to others. Social media provides an entirely new perspective and take on social engagement and the effects it can have. Research has only begun to scratch the surface of the effects social media has in terms of social engagement and interaction.

Social Media

Danah boyd (2007) defines social media as platforms that, “...allow individuals to (1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system” (boyd pg. 211, 2007). Social media started off as a place to make a personal profile and connect with those in one’s social network. As time and technology advanced, so did social media. Social media became extremely popular with young people. Teens spend time on social media to maintain connections with one’s friends (boyd, 2008). Social media platforms became a place where teens could continue the social life of school and extend it after school hours and into the home.

Early studies of social media focused on what it was and why it was gaining popularity, this body of research has grown to encompass so much more. As technology and social media grew, so did social media use as a visual communication. 65% of humans are visual learners (Bradford, 2011) and remember messages and retain information sent with visuals at a much greater rate (Gillett, 2014). This craving for visual and the rapid growth of social media eventually led to the creation of the application Instagram. Kevin Systorm developed Instagram because of his love for retro photography and sharing with friends (Roberts, 2014). The base of Instagram started from an application he created for his fraternity to share photographs of parties they had held with each other (Roberts, 2014)

Instagram is a photo sharing application. Much like other social media, it houses a profile that can be public or private. Users can follow accounts and share photograph or video content. Although, it is a relatively new platform (founded in 2010) there have been a number of studies on the application. Studies have been conducted on how athletes present themselves on

Instagram and make a personal life public (Smith, & Sanderson, 2015), how photos with faces in them receive 33% more likes (Bakhshi, Shamma, & Gilbert, 2014), and why using Instagram maybe bad for mental health (MacMillan, 2017). A study by the Royal Society for Public Health discovered that young people (defined as 16-24) who use social media platforms like Instagram state that their anxiety symptoms are becoming worse as a result of those applications. Their research also shows that those who are heavy users (defined as more than two hours of social media a day) report higher rates of depression (Cramer & Inkster, 2017). Other studies have shown that those who use seven or more social media accounts triple the risk of anxiety and depression (Primack, Shensa, Escobar-Viera, Barrett, Sidani, Colditz, & James, 2017).

Instagram is a large platform that lends itself to social comparison because users can view other profiles of relevant comparisons and evaluate themselves based on those profiles.

Instagram also serves as a platform of self-evaluation of the temporal-self (Wilson & Ross, 2000), as it houses all previous activity on one's profile. This self-evaluation using the temporal-self (or past self) would be done by comparing past posts and evaluating the growth of one's likes, comments, and followers.

The Royal Society of Public Health survey found that there are some very positive effects of social media use (Cramer & Inkster, 2017). Social media provides a way to connect and share with the friends both old and new, stay up-to-date with interest, and to connect with the world (boyd, 2008). Friends from school would tell each other to join because everyone else was doing it and it was fun. It was a place for self-expression and community as well as a place not controlled by parents (boyd, 2007). As time has passed and social media use has risen, research began to discover the negative aspects associated with these platforms. Social media (and Instagram) make a large portion of their profits from ad-based revenue. Instagram is projected to

hit seven billion dollars in ad revenue in 2018 (Aslam, 2018). Applications like Instagram make more money the more time you spend on the application. Social media apps are engineered to keep you on the application (Farrell, 2018). The creation of the “endless scroll” is something that increased users time spent on an application exponentially (Andersson, 2018). Keeping you on the application isn’t enough for social media companies. Social media has taken a similar approach as a casino says Aza Raskin, the creator of the endless scroll (Andersson, 2018). The concept is like a slot machine. A gambler will keep returning for the reward, but often is left with nothing, and that is what keeps users coming back. Users have even developed what is called “phantom notifications” (Kruger & Djerf, 2016). Heavy users will sense notifications from their phone even when they are not there. Every like, post, comment, and overall interaction on social media releases a small “hit” of dopamine (Parkin, 2018). The small hits eventually build into a loop that can create “phantom notifications” and keep people checking their phone and social media again and again.

The effects of self-esteem and social media have been studied before. However, studies of Instagram social engagement and the effects of self-esteem have not been done before. Instagram is constantly evolving and applying social comparison theory can lead to understanding its effects more. Instagram is one of the largest platforms for social comparison ever seen. With intentional engineering to keep users constantly returning to the application, social media users are creating social comparisons more than before. Therefore, the following research question is posed.

RQ1: How does social engagement on Instagram effect self-esteem?

RQ2: How does Instagram as a platform for social comparison effect self-evaluation

Methodology

The study uses qualitative interview data, collected between February and March 2019. 20–35 minute semi-structured interviews were conducted with students from a small private university in the southeast region of the United States. The PI recruited participants by pitching the research to students in undergraduate classes. The PI left their contact information on the board and received emails from students willing to participate. This study relied on a pool of participants from convenience sampling. Through convince sampling, the study also received participants via the snowball sampling method. Given that 72% of teens use Instagram and 59% of all internet users between the ages of 18-29 use Instagram (Aslam, 2018), it was determined that this was an appropriate population to interview. There were a total of 16 participants recruited. Informed consent was clearly established in all interviews and participants were compensated for their time with extra credit.

The participant's ages ranged from 18-22 years old. In total, 8 males and 8 females were interviewed. Demographic questions were not asked during the interview process, but some participants gave demographic information with their answers. This study intentionally did not seek demographics as it was deemed unnecessary. The study's focus was on Instagram users aged 18–22-years old, and to better understand Instagram use in this age range. Previous literature has not found any specific demographic information to lead to notable findings besides the difference in use between male and female populations.

Robert Weiss (1995) outlines different strategies for collecting and analyzing qualitative interview data. As a result, this study uses a Generalized Issue-Focused report (Weiss, 1995, pg. 162) Generalized Issue-Focused reporting is a way to synthesize and report the data received from participants of the study. A Generalized Issue-Focused report is a way to view an

overarching phenomenon (issue-focused) and use all the participants' responses to gain a better perspective of the phenomena (generalized). This type of research's strength lies in the ability to gather personal experience and depth from the phenomenon. There are three analytic processes that are apart of producing an analysis like a Generalized Issue-Focused report out of interview material—they are coding, sorting, and integration (Weiss, 1995).

Design

Participants were interviewed in a private room on campus. Participants were asked a series of questions by the personal investigator (PI). Interview questions from previous literature were adopted and used for the present study. Broad questions asking participants to describe themselves, followed by asking participants what traits they tend to compare themselves with others (Wilson and Ross, 2000), and asking participants how long they could stay on Instagram while still being entertained (Fardouly, Diedrichs, Vartanian, & Halliwell, 2015). Along with the previously adopted questions, unique questions were developed for this study to better understand general Instagram use, how Instagram could be used as a medium of comparison, and how social engagement is valued on the application. The protocol for this study consisted of prompts, such as feelings questions, description questions, and background questions. The interview questions for this present study are included in supplementary materials as Appendix B.

Procedure

The interview's started with the participant reading over the informed consent form. The PI asked if the participant had any questions regarding how the interview would go. After all questions had been asked and answered, the participant signed the document. The PI then asked if the participant gave consent to participate in the interview. The PI then began the recording

and asked the participant if they had read over the informed consent document and if they would like to proceed with the interview. The PI then asked the participant the set of questions that were developed prior to the interview. These questions served as base questions and follow-up questions were also asked. After the interviews were completed, they were saved on an external hard drive and stored in a secure location.

Once all interviews were conducted, the PI transcribed the interviews and assigned pseudonyms to each individual participant. Then the PI followed an Issue-Focused Analysis outlined by Weiss (1995) to analyze the data. Weiss states, “coding is the way to link what the respondents say in the interview to concepts that will appear in the report” (Weiss pg. 154, 1995). Coding began immediately after transcribing each interview.

The PI sampled three transcripts at random and inductively coded each one in order to make the codebook. After the sample of transcripts was coded, the PI found reoccurring codes that were used in each of the transcripts, resulting in a preliminary codebook. This codebook grew as more reoccurring codes were found in the following transcripts.

The finalized codebook was then used to code the rest of the transcripts. Once all the transcripts were coded, the PI began sorting the codes. Weiss creates excerpt files of the transcriptions to help find information easier (Weiss, 1995). These excerpt files consisted of the reoccurring codes found in the transcripts and were sorted into separate files and stored on the external hard drive.

After sorting, the PI began the integration process. Weiss describes this process as “[summarizing] the excerpt files and its codings: Here is what is said in this area, and this is what I believe it to mean. We might first summarize the main line of the material: what most respondents say. Then we could turn to the material that does not fit the main line, the variants,

and summarize them” (Weiss pg.158, 1995). In essence, integration is finding the “themes” that arise from the interviews. The PI used the integrated files and themes from the interviews to find the main themes that arose from the research. The following themes were identified: Instagram and comparisons, Instagram and social engagement, age & maturity, online identity and representation on Instagram, and ambivalence of Instagram use.

Results

Instagram and Comparisons

Most participants emphasized the magnitude in which Instagram was used as a platform for comparisons. Though participants noted that comparisons were made in different ways, depending on how they used Instagram. The three main forms of comparison seen in this study were outward comparisons, self-comparisons, and situational comparisons. Outward comparisons were defined when the participants would make a comparison with another user while scrolling through their Instagram and would make a comparison to themselves with the post they viewed. Kaitlyn, a 20-year-old had this to say when asked if she found herself using Instagram as a means for comparison:

Kaitlyn: Oh yeah. Oh yeah. I go on there, and I follow girls that post like bikini pictures all the time and I am like wow. That's not me. It's not what I look like. It is all comparison.

The above point has implications with Festinger’s (1954) original study in which he states, “[T]hus if a person evaluates his running ability, he will do so by comparing his time to run some distance with the times that other persons have taken” (Festinger 1954, , pg. 118). Body image was a marker for many in terms of comparisons on Instagram, and body image and social comparison theory has been explored in previous studies (Strahan Wilson, Cressman, & Buote,

2006). Kathy, a 20-year-old participant followed fitness accounts and said this when speaking to ways she used Instagram for comparisons in terms of body image and physical fitness:

Kathy: It motivated me to keep up. Like if I kept doing this I would be able to look like this person. Or like establish this healthier lifestyle.

Kathy spoke to how this was a positive comparison as it helped push her to be more physically fit and live a healthier lifestyle. Though as many college students find, her life became too busy to keep up with this new lifestyle. Having experienced the negative effects that comparisons have before when making comparisons to body image, Kathy decided to unfollow these accounts to avoid creating a negative impact on her self-esteem:

Kathy: And I unfollowed them because I realized that I can't maintain while I am living on school, on campus [...] the workload is just not manageable for me and I didn't want to see them and be like oh my gosh Kathy look at them their cute, their continuing their progress and you just like have gone back [...] I just didn't have the time nor like the mental effort to feel that so I just didn't.

The above point made by Kathy about body image and Instagram has been analyzed in previous studies. The #StatusofMind survey (Cramer & Inkster, 2017) ranked Instagram last out of the five major social networks for how it made users feel about their body image.

Though most of the participants noted that any outward comparisons that they were making with the application were leaving an overall negative impact, it should be noted that some participants were using outward comparisons in a positive way. Karl, a new media design major used Instagram as a means of inspiration to give him new ideas of what to do with his art:

Karl: Just seeing what I want to do specifically, they are doing the exact same way [...] Something that I want to learn. They can teach me. So that is what makes me follow those certain accounts [...]

A portion of the participants were aware of the negative impact that outward comparisons on Instagram could make, and actively tried to stay away from making said comparisons.

Andrew, a 21-year-old said this when making comparisons in life:

Andrew: One sort of principle I try to live my life by is don't compare yourself to who others are today, compare yourself to who you were yesterday.

Andrew admitted that this was a principal and not always upheld, but it showed when asked if he used Instagram as a medium for comparison:

Andrew: Very rarely [...] I know that can be common for some people to, who maybe are on it more or direct meaning from how they are perceived. But it would be very rare for me to make comparisons from Instagram specifically.

In Festinger's 1954 study, he hypothesized that humans make comparisons with others as a means of self-evaluation. Wilson and Ross (2000) found that people will make temporal-self comparisons as a means of evaluations as well. As mentioned above, some participants did not feel that they made outward comparisons, or actively tried not to make outward comparisons on Instagram. Many of these participants did use their younger selves as a means of comparison on the application. Izzy, a sophomore at university found herself comparing her younger self on Instagram and how she has made a positive change in her use of the application:

Izzy: [...] because maybe like two years ago I would be on it for like two hours straight and that would be during the times that I would be doing my homework and I would get distracted [...]

The above quote has implications with Wilson and Ross's (2000) study as it reinforces one of the main findings. Most of the self-comparisons made in the present study were "downward" comparisons, meaning that the current self was superior or had grown compared to the younger self. This type of comparison makes sense on Instagram, as the application is an archive of your past self and can store data for self-comparison at a moment's notice. This information provides the platform to see the change of use from a past self and the current-self. Sarah, a 20-year-old had this to say when reflecting on the difference in her Instagram use:

Sarah: I would say when I was younger I was definitely one of those people... cause I feel like everybody was when they were younger. That wanted to do it more on likes. And see who could get the most likes [...] I don't really care about likes anymore. It is like if I like a picture, I am gonna post it because it makes me happy.

The concept of posting for oneself was a reoccurring theme during these interviews. Participants spoke to no longer caring about what their followers thought of their pictures and posts, rather it was something they were sharing because they liked it. To some extent, this is true as many participants expressed that their Instagram posting was just for them. It should be noted however that nearly all participants contradicted themselves when speaking about the posting process. Oftentimes, their audience heavily influenced their decisions during the posting process. This was a novel finding that has not had any precedent in existing social comparison or Instagram literature. When asked about the posting process, most participants claimed they gave it quite a lot of thought. Johnny had a quick response when asked how much thought goes into a single post:

Johnny: Too much [...] Too much thought. It has gotten a lot easier. I mention my girlfriend a lot, but I let her edit my photos now. I give the phone to her and I let her take care of that then I just have to worry about the caption.

Johnny gave insights on the posting process overall, which involves editing, captioning, and the selection of the right photograph. An interesting theme that arose from the posting process seen above was that most participants received outside assistance along the way. Participants would reach out to friends or significant others to help with editing, captioning, and the selection of the right photo. The majority of participants found that the caption was the most important part of the post. Kaitlyn had this to say about captions:

Kaitlyn: I feel like captions are important [...] I want to be funny [...] Just something that can catch someone's eye. Be like, oh that's funny.

It should be noted that most self-comparisons that participants made were age comparisons. A small group of participants did make age comparisons to highlight the difference of Instagram use between the younger generation and the older generation. Grace noted this difference in posting style:

Grace: I follow relatives and older adults who maybe post a lot at once. Verses in our generation and age group it is kinda perceived as cool to not overwhelm your feed or something like that.

This idea that Grace touches on in the above quote was highlighted in the *New York Times* article by Devorah Heitner (2017), where they interviewed teens to better understand the unwritten rules of social media. One of the unwritten rules was to not over post or to not share too frequently.

The final comparison that arose during the present studies interviews was situational comparisons. This comparison is best described as viewing another's situation or status and

comparing it to your own. Patty, a recent university transfer had valuable insight into situational comparisons:

Patty: [...] there was a time that I didn't know if I was going to be able to leave the country. So I would see my friends who actually migrated to other countries and I was very jealous of that and compared myself like I can't because I don't have the money to do that.

This was another unwritten rule highlighted in Heitner (2017) interviews with students, i.e. not posting too many pictures from a certain event that could make others jealous. This goes against the literature, as Festinger (1954) believed that humans would make lower level comparisons when presented the opportunity to self-evaluate. Posting an event would, in theory, give the user a higher level to make comparisons downward. Many participants agreed with the students from Heitner's interview (2017). Dio, a sophomore at university kept this in mind when posting on his Instagram:

Dio: [...] in today's terms, I don't want to flex my situation on people that are not as fortunate [...] maybe they can't attend college or they are not on an athletic scholarship [...] I don't want them to feel worse about themselves.

Dio went on to explain that this is something one needs to consider when posting on Instagram. Dio reflected on how certain posts had made him feel in the past and used that knowledge to better consider how his followers could feel from his posts. Kathy spoke to the implications this type of comparison can have on an individual:

Kathy: I was in my class and I open up my Instagram and the first thing I see is one of the girls [...] in Cancun just chillin' on the beach, and I'm in class. In comparison right there I was like wow my life sucks.

Although most participants consciously tried to not make social comparisons on Instagram, it was still a constant theme throughout interviews, whether it was a conscious comparison or not. The net outcome of a comparisons effect was dependent on what type of comparison that was being made. Overall, situational comparisons had a tendency to lead to a negative feeling after self-evaluation and self-comparisons lead to a positive feeling, oftentimes used to measure growth, which the majority of participants were glad to see. Outward comparisons generally split, depending on the context of the comparison. When outward comparisons were being drawn upon for body image or lifestyle evaluations, it ended with a negative emotion and impact on self-esteem. When outward comparisons were being used for inspiration, it led to a better work ethic and creative drive. The majority of participants understood that comparisons were being made, but participants differed in how much they valued these comparisons on Instagram. The value that each participant gave to comparisons seemed to affect the magnitude of impact the comparison had. Jack, a sophomore at university, had this to say when asked to reflect on Instagram and its ability to affect one's mood:

Jack: I think it depends on how much time you value it. I know for me it doesn't change how my day is going. If it is good or bad, it is just something to look at. [...] I think it depends on how much time you value and spend on Instagram.

The present study illuminated the different ways comparisons can be drawn through the application. The value of each comparison is largely dependent upon the individual. Still, most participants experienced at some point or another in their life the way that Instagram as a vehicle of comparison could negatively affect them. Patty explained why she decided to remove the application off her phone the day before the interview when asked how she felt about the way she was using the application:

Patty: Negative. [...] Lately, I was basically was using it (Instagram) to compare myself to other people. Because I am at a point where not everything is going really well. So seeing everyone doing really well, it makes me happy for them [...] But I am like damn, this is not happening to me. So, comparison for sure is the thief of joy [...] And I was just like I need to stop.

Instagram and Social Engagement

While comparisons were a major theme of Instagram use, Instagram is a social networking application at its core. Social networking applications, like Instagram, encourage interactions between users. These interactions evolved into a form of social engagement through liking, commenting and sharing posts with other users.

This social media platform grew drastically in its early years, with most participants downloading the application within the first two years of its existence (Roberts, 2014). Every participant downloaded the application because friends and peers had it and encouraged them to download it themselves. Dalton, a sophomore at university describes how he at first resisted, but eventually joined Instagram. Dalton downloaded the application later than anyone that participated in the study, joining Instagram in 2015, five years after its launch:

Dalton: I was about to be a junior in high school and my cousins persuaded me to download and create an account. Cause [...] they said that everyone was switching to Instagram. So I was gonna not do anything but I caved and made one.

Liking, commenting, and sharing are how interactions within the application occur. All participants discussed partaking in social engagement in some form or another. One of the most common forms of social engagement came from posting a picture with friends. Nearly all participants said they used the application more for viewing than posting, but if they did post, it

was either a special event or with friends. Some participants even went as far to say that they would never post a photo of just themselves. Kaitlyn had this to say about her posting:

Kaitlyn: [...] I took a picture with my friend, so... it's my friends. It is never like just me.

So it is just when I have a good picture of me and my friends I post it.

This reinforces the belief that humans are wired to connect (Brookes, 2013). Mathew Lieberman was interviewed by Gareth Brookes and he claims that our need to connect is as strong as our need for food and water (Brookes, 2013). On a platform where someone presents themselves, it follows that nearly all participants expressed wanting to post special events with friends on Instagram. However, the interaction goes deeper than just posting the photo. Grace spoke to the value and effect a post with a friend has on her when asked if Instagram could leave a positive effect on her mood:

Grace: Definitely, yeah. Especially when a friend posts with you. That is them showing

[...] They appreciate you. That you are all in this together, that you are all friends.

With this social engagement of posting with friends, there is also the reverse effect, which a portion of participants spoke about as one of the ways that Instagram negatively affects their mood. Grace mentions it as when Instagram is at its most harmful, even if her friends didn't mean to not include her.

Grace: if I saw a group of friends hanging out and I am feeling dis-cluded (sic) from it, or unattached from it. That is when I feel social media is the most harmful. You know, because you feel the most lonely.

This reinforces the #StatusOfMind study (Cramer & Inkster, 2017) which ranked Instagram as the worst social media application for creating the feeling of loneliness. This is a direct contradiction with the concept of social media overall, but one that was discussed by a notable

portion of participants. Grace and Kayce both went as far to say that Instagram made them feel isolated at times. Kayce had this to say when asked how she felt Instagram made her anxiety and depression worse:

Kayce: Because I'll see pictures of people like friends or things [...] And I'll be sitting where ever I am alone. So then it exacerbates it [...] That I am alone right now and everybody else is having fun and you are not having fun. So I have a giant fear of missing out, so when I see that all the time, it just makes me feel more like I am on the outside. Because if I am not in that picture, I am not there where that is happening. Then I am on the outside of that.

This experience that Kayce had was different from Social comparison because she was not making an evaluation. This experience speaks to the magnitude that social engagement can have through Instagram. By not being included in her friend's post, she feels as if she has missed out and effectively lowered her self-esteem. This is confirmed again by the #StatusOfMind study (Cramer & Inkster, 2017), which ranked Instagram as the worst social media in increasing symptoms of depression, second worst in increasing anxiety, and ranked Instagram second to last to in increasing fear of missing out (FoMO).

Social engagement on Instagram is more than just publicly displaying friendships in photographs. Participants spoke about the value of the smaller interactions on the application, such as liking a friend's photo, commenting on a photo, or sharing a post with them through the direct messaging function of the application. Harry, a university student who has lived all around the world spoke about the value Instagram has for him to be able to stay in contact with his friends who are abroad:

Harry: The only real thing that I use to message people is Instagram [...] most of the time if I want to interact with someone who I haven't seen in a long time, Instagram is the way to go.

Harry has a very specific case and use for the action of direct messaging (DMing), but a large portion of participants mentioned using the DM feature as well. Johnny mentioned multiple times that DM's were his favorite part of the application, as he enjoyed sharing funny content with friends and when they would share content with him:

Johnny: [...] I mean the main reason, like I said, is the DM's, the messaging. Sending these funny posts to people is what I really care about.

Beyond posting with friends and sharing content through DM's, liking and comments were the last major forms of social engagement seen in the present study. These forms of interaction were both valued in most participants. Andrew mentioned how this type of social engagement was valued on one of his posts:

Andrew: I mentioned my childhood best friend's wedding, and I posted some pictures [...] When she and her sisters saw that, their likes and comments meant a lot to me. Cause they were you know just sharing love and sharing memories from my times in Alabama and it was a really nice sort of way to have one last acknowledgement of that big event.

Most participants stated that likes did not matter as much to them anymore, which built upon the claims that they now post for themselves and not others. This, again, was contradicted as the majority of participants mentioned that certain likes mattered more. Showing that to some degree, likes still mattered. Tess, a junior at university had this to say about the value of certain likes compared to other likes:

Tess: And like those people I don't really care if they see my photo. Maybe more of like my soccer team or [...] the [university] Women's soccer account. They tend to like our soccer team's photos occasionally. So it is something that I would be like oh cool. You know. Coach liked my photo.

Most participants claimed to care less and less about likes. Most participants explained that likes were simple, effortless, and nearly elicited a muscle memory-like reaction. They explained that often times when scrolling through Instagram, liking a post was an easy and nearly mindless reaction. Kayce explained this process about how easy it was to like a post while scrolling through Instagram:

Kayce: Cause most of the time *gestures double tap* that doesn't mean too much. That is muscle memory. I have liked stuff I don't even like. Sometimes, I have liked stuff, and then I'll be like "Why did I like that?" and scroll back to unlike it cause I am like I didn't even know I did that.

A group of participants explained that because of how they viewed the value of likes, comments were the most valuable. Kayce explained the value of a comment weighed against a like:

Kayce: [...] god forbid I get a comment, and my day has been made. Somebody comment on my stuff! [...] it means somebody spent the time or it was likeable enough that they spent the time to write out a word.

Kayce illuminates how the type of social engagement matters on Instagram and expresses how when more effort is put in, the larger the effect of positive emotion is. Kayce went on to discuss how the comments that mattered the most came from close friends or family, not just random people from Instagram. Johnny furthered this point during his interview:

Johnny: [...] But more than the picture, is the comments. [...] I think what really makes the picture are like, if I get 9 comments with it. That talk about. That is your friends commenting on it. Something that adds more humanity to the picture. [...] Because anyone can like a picture. It is just, two taps on your phone. It is not that hard. But if someone is like, it gets to someone enough where they want to comment [...] that means more. And that usually comes from my close friends.

Considering all the different functions Instagram provides, it makes sense that social engagement can be experienced in a multitude of ways on the platform. Just as with social comparisons, the amount of value the participant gives to the application affects the magnitude of impact the social engagements will have on their self-esteem. When a participant gave more value to a comment as opposed to a like on a post, the comment generated more impact on their self-esteem and mood. The overwhelming majority of participants expressed the positive effects of social engagement on Instagram. The interactions with friends through this medium are a large reason for the overall use many participants have with the application. It should be noted that participants' self-esteem was negatively impacted by the absence of social engagement. The majority of participants expressed that Instagram can affect their mood both positively and negatively; a select few participants stated that the application only had negative effects and because of that reason they were actively attempting to spend less time on the application, and a single participant said the application only had positive effects on their mood. Going back to Jack's statement, the effect of the application was dependent on how much time and value the participant gave to Instagram. Overall the participants that didn't care much about how they used the app had a more positive experience with it. When participants spent more time on the application and valued certain social interactions on it, like being tagged in a post by a friend or

having comments left on their own post, negative effects like depression, anxiety, and FoMO followed when those social engagements did not occur.

Age & Maturity

A common theme that arose was age and maturity. Instagram was founded in 2010 and gained a large amount of its user base within the first two years (Roberts, 2014). The majority of participants were either in middle school or early high school during this time, and as previously mentioned they downloaded the application because their peers had done the same. The majority of participants had been using the application for at least six to seven years during the time of this study. Nearly all participants noted a change in the way they use the application now compared to when they first downloaded Instagram. Sarah noted how her change came in a positive way:

Sarah: I [...] think like from my 14-year-old self to my 20-year-old self, I have definitely grown and changed. [...] when I was younger I used to be more about being popular and [...] now in college it is just kinda like I don't really care about that[...] You're not gonna please everybody. And it is really not gonna matter at the end of the day.

All participants that experienced this change in use because of growth and maturity attributed it to a change for the better. For the participants that attributed growth and maturity creating a large change in the way that they use the application, all of them defined the change as a healthier way to use the application. Kathy said this when asked how she now felt about the way she was using Instagram:

Kathy: Now? I think it is a much more healthy way of using Instagram. I think it serves more of a purpose for me because my Instagram isn't filled with other people [...] it is more fun I think then it used to be. [...] I took all of that try hard off and it is just fun.

Age alone was not enough to create this change of use. Nearly all the participants that expressed a healthy change in the way they used the application had a serious event take place to start that change. A bad break-up or worsening mental-health status were the largest contributors to the change. The #StatusOfMind survey (Cramer & Inkster, 2017) and MacMillian (2017) strengthen this point as Instagram was ranked the worst among the five major social media networks for mental health. Though the end result was considered by participants to be a net positive change, it required a significantly negative life event to begin the transition.

It should be noted that a small group of participants did make a healthy transition to using Instagram in a different way from their younger self naturally. Unlike other points of the study where participants seemed to contradict themselves, the act of maturing and having a healthier way of using the application was constant. The self-report data on this aspect seemed truthful and genuine. Tess expressed her change in posting and overall Instagram mentality because of growing up:

Tess: I would say just growing up and maturing [...] And my friends maturing, and this just being a whole change socially [...] I would say it is more of an external factor than it is an internal factor.

As one gets older, change and growth are inevitable. Once in a university setting, young adults make some of the largest changes in personality and character. This can explain the natural change in Instagram use that was seen during this study. For the biggest and most drastic changes to occur, it seemed that a significant event in one's life was a necessary prerequisite.

Online Identity and Representation

During interviews with participants, the concept of online identity and representation on Instagram arose. A majority of the participants described Instagram as a place where one puts

their best foot forward or shows their ideal self. Johnny went as far to describe it as an “elite app”:

Johnny: Today it is definitely more of an elite app. [...] It is way more high profile now than it used to be. So with that comes like a higher standard. [...] I think of it as more of a higher standard of presenting yourself.

This concept of a higher standard can explain why participants cared so much about what photos they were sharing with their followers. In terms of how this affects comparisons on the application, a small group of participants explained understanding this standard, and it helped them not draw comparisons with others to self-evaluate. It should be noted that this was a smaller group of participants and the large group still draw comparisons to the best-represented selves seen on the application. Harry expressed his change of representing an ideal self versus a truer self and how he views other individuals' use of Instagram:

Harry: I just wanted Instagram for the sheer numbers to look popular. It was basically a facade for myself. So basically I've wanted to become more real [...] This might be really subjective to me but a lot of people are really fake. Especially with their Instagram because you don't know who they actually are.

This concept of wanting to have an Instagram profile represent a real you became challenging. Participants spoke about an unwritten rule that on Instagram there is a perception of only posting “happy” posts. Participants expressed that nearly all content that they shared was special events and good moments of life. Dalton shared that this is something you just need to remember when you are on Instagram:

Dalton: But again you're not gonna put “I am feeling bad on social media”. We are gonna put when we are doing something fun or cool. So it is just like the idea of looking at

social media and knowing the purpose of it is to share the good experiences it is not to be a moment by moment representation of life.

Many participants expressed this line of thinking. All participants agreed that Instagram is a place meant to share happy and exciting experiences and moments of life. Nearly all participants agreed that it isn't the most appropriate place to share negative content, and even if it were, participants would rather seek in-person help from friends and support structures rather than receive help from Instagram. As Dalton notes, users should be aware of social media being a curated depiction of one's life, because if they perceive it as a day-by-day representation, it can lead to unrealistic expectations and interpretations of lifestyle. As seen when making social comparisons of lifestyle and image, it often led to a negative impact on self-esteem. Even if users try to create their Instagram profile to be a "true" representation of themselves, most participants did not believe it to be possible. Tess had this to say about Instagram being a true representation:

Tess: I don't think you could ever know someone through and Instagram [...] So I don't think that my current Instagram profile would allow people to understand who I really am but I think it definitely gives a better picture to place in their mind.

Nearly all the participants felt that it is impossible to truly represent oneself fully on Instagram.

In some sense, a form of online identity will always be present on Instagram. Grace was attempting to express how she felt about her use of Instagram when she touched on the subject of her online identity and representation on Instagram:

Grace: Uhhmm, that is a good question. I feel, I really like my Instagram. Like I feel it is sort of... I don't want to say a part of me, but like a window into me [...]

Though a window is transparent, it is still restrictive in view and can only allow certain things into frame. A curator can rearrange the room the way it best sees fit to tell any story. Even if the story is a genuine interpretation, there will still be the restriction of frame and view. It is therefore impossible to truly represent oneself on Instagram. The careful selection of the right photo, the right settings for an edit, and the perfect caption still do not allow to represent the full picture. The window can create a better idea of who one is, but it will never be fully capable of telling the full story.

Ambivalence

Ambivalence was a strong theme seen in a handful of participants. Participants noted that this was the first time that they had been asked these types of questions relating to their Instagram use, and it was the first time that they truly began to think about their habits within the application. Grace processed her overall Instagram use during her interview for the first time, and concluded that it all made sense:

Grace: Now that I am thinking about it [...] time of day posting, like why we are trying to do clever captions, why... Like why you are trying to do clever captions? Why you check it at that time of day? Why you post at that time of day? It is just kinda crazy. I never really have thought about them that deeply. But it makes sense to me.

Grace was eventually able to make some sense of this Instagram usage and believed it made sense because everyone else did it that way, and it was a habit. The ambivalence of Instagram use was seen at nearly every step of the way. Tess noted her ambivalence with how she posted for herself, but her followers had influence on what she posted:

Tess: Like I don't know, I feel like I get a sort of satisfactory (sic) when after posting a good photo with a good caption, and that is like only for myself. But like I hope that it

is... I know that it is influenced by people that follow my account. I just don't really know how.

At many points, participants struggled to answer questions because they had never thought about the question before. Many of the questions were about unconscious habits participants had when using Instagram, like why they waited for a certain time of day to post a photograph, or why participants would go through the rigorous posting process. Kathy was ambivalent on expectations she set for her posts on Instagram:

Kathy: My expectations... is that they would see it and my expectations would be like that they would think that I am doing just fine. Which I was. But I don't know why I felt a need for them to know. [...] But that was what my expectations were exactly.

Kathy didn't feel the need to let certain followers know how she was doing, but at the same time, she did. Participants that did experience ambivalent thoughts during the interview often found it at multiple points. Kayce found ambivalence with her entire use of the application as a whole:

Kayce: I still don't find none of it as a whole... a genuine entertainment. It is more of... it feels to me like it has become a habit and not even like anything. I could get rid of it and my life would be a lot better and I don't know why I haven't. Now that is just weird.

Kayce was feeling the contradiction of her use of the application as a whole. In Kayce's case, she believed that she would experience better mental health without the application, but she still kept it. This again speaks to the potential for social media apps' inherently addictive qualities (Andersson, 2018), which keeps users coming back for more and more even after the app was no longer fulfilling its purpose. Most participants expressed how long they could stay on the application in one sitting while still being entertained, and many stated that even after their entertainment time had concluded, they would continue to scroll mostly out of boredom.

Kayce: I'll find myself like on it just scrolling. [...] I would keep waiting for the next funniest thing or the next best thing. So I could then get off of it. I would keep thinking if I find that really funny post that will be the last post, then I'll leave. Then I'll look at it and be like eh hh that wasn't that funny and I'll keep scrolling [...]

Aza Raskin was the creator of the “infinite scroll” (Andersson, 2018) and this is arguably the immediate effect of that creation. Without realizing it, humans will continue to scroll. The ambivalence many participants were experiencing can be explained by how young the application Instagram is. Given that it was created in 2010, it has not been around for a long period of time, relative to other social media platforms. Yet in that time, people have formed deep-rooted habits associated with Instagram. These deep-rooted habits and the overall perception that “everyone does it that way,” which most participants held, is arguably what led to the ambivalent reflection on their Instagram use.

Discussion

Using Festinger’s (1954) social comparison theory as a lens, this paper used in-depth interviews with one of the most active age groups of Instagram to better understand how and why they were using the application. It is clear that Festinger’s (1954) original social comparison theory can be seen in Instagram use today. Participants made comparisons with others to self-evaluate and used the temporal-self to draw self-comparisons from their past (Wilson and Ross, 2000).

In support of Social Comparison Theory, in most cases, individuals who made a self-comparison made a downward or lesser comparison to their younger self. This was an overall net positive comparison as participants reflected on how they have grown in a positive way. This reflection mostly noted how they now use the social media application in a healthier way.

Most comparisons seen in this study came from outward comparisons and situational comparisons. These comparisons go against Festinger's (1954) original study, as Festinger hypothesized that humans would tend to make downward comparisons for self-evaluation. This trend of humans making upward comparisons or higher-level comparisons is a phenomenon that has been growing (Strahn et al., 2006). Humans are starting to make comparisons based on cultural norms. The most common outward comparison reported by participants in this study dealt with body image and overall image presentation. The vast majority of these comparisons were extremely negative in how it affected the self-evaluation.

Social engagement proved to be a valuable interaction on Instagram. For the vast majority of participants, some form of social engagement was what kept them on the application. Liking, commenting, and sharing are all integral parts of Instagram and the participants valued some form of social engagement. Participants noted that social engagement had the potential to be a very positive and uplifting action on Instagram, which would help their self-esteem. The reverse effect on self-esteem was seen when social engagement was not there, particularly when being left out or perceiving oneself to be left out. The negative effect the lack of social engagement left on the participant's self-esteem was large.

Implications

Instagram is growing by the day and it has more than 100 million photos uploaded to its site daily (Alsam, 2018). Users are making comparisons at rates never before seen as they check the application multiple times throughout the day. Consciously or unconsciously, Instagram users are drawing comparisons for self-evaluations. Users are following an unwritten rule to post their best self all the time, which sets the stage for making comparisons to others' best selves. It is unrealistic to think that one can be or present their best self at all times, but Instagram allows

for this kind of thinking to take place. Participants stated that they knew this, but many of those had to take a step away from the application and come back to fully understand. Other participants grew and matured enough to the point where they could see through the illusion. This participant pool was on the latter half of the young, college-aged adult range and comprises the largest audience on Instagram (Aslam, 2018). Human development during these years involves large physical and mental changes, and the younger portion of this age bracket may not be able to understand how their actions on Instagram are shaping them.

Social engagement is clearly a valuable part of any social media. Participants made it clear that different types of social engagement were valued differently. Depending on how you valued the application and used it overall. The overarching theme was positive and negative impact on the self-esteem. The positive impacts, though were present, were very small. The little social engagements that created a positive impact for users were small in nature and only lasted a couple of minutes in satisfaction. The negative implications were seemingly not as small or as quick; they were arguably more impactful, though not as frequent. When a negative impact did occur, it typically stuck with the individual. The value each participant gave to the application and the social engagement that happened within it generated the magnitude of positive or negative impact on self-esteem.

The results of this study can be valuable for any teenaged user of Instagram, parents of children who are Instagram users, and any youth organization like schools or religious institutions. A better understanding of how others have used Instagram in unhealthy ways and learning how to change unhealthy habits can reduce the negative impact on self-esteem. Learning that Instagram is not an accurate depiction of an individual, rather a user's presentation of their best self could lead to a healthier use and understanding of the application, but this has yet to be

empirically proven. Understanding that the best self-presentation should not be used to compare, especially in terms of mental health and self-evaluation, as seen by the self-reporting of participants in this study who changed the way they use the application for a healthier outcome.

This project clearly states how social media is moving faster than the rest of society can keep up. Many users have deep-rooted habits that they do not question or attempt to understand why and more importantly the implications and effects of those actions. This study only looked at a very small section of the largest user base on Instagram. This application is very popular with young adults and it should be better understood by those who use it most. There is more to be understood about how and why younger people are drawn to this application. It should be noted that the concept of ambivalence was merely touched upon here, and there is much more to be uncovered concerning individuals' contradictory statements about their Instagram usage and why they don't fully understand what it is they do on the application.

Challenges and Limitations

As with any study, this paper has its limitations. This study did not attempt to provide a solution to the negative effects associated with Instagram use. Further work should be done to better understand what prescriptive solutions can be used to combat the negative outcomes of Instagram use. There is also something to be said about the population used for this study. This was a participant pool of convenience sampling. The study was structured to eliminate as much of the limitations a convenience pool provides. Participants were aware of their responses being recorded and a change in their responses (positively or negatively) may have been indicative of social desirability bias (Grimm, 2010). This research relied on self-report and participants' own experiences with the phenomena. The interview was structured to help reduce social desirability bias to a minimum. There is something to be said about the demographics of this study. This

study's goal was to better comprehend Instagram use of the teenager and young adult audience as a whole. This study did not attempt to understand the difference of use between genders. Further research should be done to better understand how Instagram use could differ between genders. Recruitment and time were another set of challenges faced during this study. The original proposal had hoped to receive roughly 20 participants. While 16 participants approaches that range, further research could benefit from having a larger applicant pool.

This study's goal was to better understand Instagram use through the lens of Social Comparison Theory and to better understand why teenagers and young adults are drawn to this application. Due to the structure of this study and time limitations, this study was not able to fully explore all concepts that arose during participant's interviews. Two Particularly notable themes that arose were the concept of a "finsta" or fake Instagram and ambivalence. More work should be done to better understand these specific phenomenon's that are happening within Instagram, as there are many implications with these themes to online identity construction.

Despite these limitations, these results point to an overarching sense that comparisons do happen with regular frequency when the application is opened. Whether or not comparisons on social media are helpful or harmful depends on the characteristics of users themselves and how much value they give to the application. Age and maturity clearly play a factor in the ability to understand higher and lower level comparisons. Social engagement is valuable and positively impacts users self-esteem, though the impact is not very big. When social engagement is absent, isolation and loneliness results and the impact of the absence of social engagement has a stronger impact on self-esteem. Scholars should attempt to better understand why young people are so drawn to this application and develop ways to help create the healthiest usage possible on this social media platform.

Appendix A: Codebook**H: Comparisons**

Type	Code	Definition
VS	Comparison	When a participant talks generally about comparisons and how they drawn them
VS	Outward Comparison	When a participant draws a specific comparison, using others to measure themselves
VS	Self Comparison	When a participant draws a specific comparison using a previous self to measure their current self
VS	Age Comparison	When a participant draws a specific comparison using age as the differentiating factor
VS	Situational Comparison	When a participant draws a specific comparison with a situation that others experience and compare it to their own personal experience
P	Deleting Photo	When a participant talks about how and why they deleted a photo they had previously posted on Instagram
P	Viewing	When participants talk about viewing other accounts/life of others through Instagram
P	Like Counting	When participants talk about the concept of like counting, or counting likes of their photos
D	Work Ethic	Participants describing their own work ethic or the work ethic of another
D	Results	Participant describing results they see
D	Disappointment	Participant describes a moment or situation where they became disappointed
D	Self	Participant describes themselves or a concept of the self
D	Young	Participant describes younger them or younger others
D	Influencers	Participants describe Influencers. A title of certain Instagram users
D	Dumb	Participants describe something they do on Instagram as dumb or silly
D	Maturing	Participants describe the process of maturing and how it shapes their Instagram use
D	Life style	Participants describing the life style of others or themselves being displayed on Instagram
D	Likes	Participants describe the action of likes on Instagram
D	Image/Body Image	Participants describe a certain look or image/ body image
D	Aware	Participants describe a situation that they are aware they are doing

D	Unaware	Participants are describing a situation that they are unaware of what they are doing
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H: Posting Process

Type	Code	Definition
P	Posting	When a participant talks generally about posting on Instagram
P	Caption	When participants talk about captions of posts/ what makes a good caption
P	Outside Assistance	When participants talk about the process of reaching out to others for assistance in posting process
P	Editing	When participants talk about editing a photo
D	Influenced by others	Participant describes how others influenced their actions on Instagram
D	Friends	Participant describes moments and interactions with friends of Instagram
D	Photo	Participants describe a photo
D	Random	Participants describe act of randomness on Instagram
D	Time	Participants describe concept of time on Instagram
D	Audience in mind	Participants describe moments where they are aware or not of taking into consideration their audience when interacting and posting on Instagram
D	Highlight	Participant describes something that highlights/enhances something on Instagram. I.e. a caption highlights the photograph
D	Funny	Participant describes something that is funny on Instagram. I.e. it is important to have a funny caption
D	Expectations	Participants describe expectations for interactions on Instagram
D	Effort	Participants describes how action or process on Instagram takes effort
D	Event	Participant describes a special event
D	Happy Post	Participant describes a happy post on Instagram
D	Sad Post	Participant describes a sad post on Instagram
D	Creative	Participant describes being creative with Instagram

H: General Instagram Use

Type	Code	Definition
P	Instagram Use	When a participant talks generally about how they use Instagram
P	Posting	When a participant talks generally about posting on Instagram
P	Deleting Photo	When a participant talks about how and why they deleted a photo they had previously posted on Instagram
P	Scrolling	When a participant talks about scrolling through their timeline/Instagram feed
P	Following	When a participant talks about following certain accounts/people on Instagram
P	Viewing	When participants talk about viewing other accounts/life of others through Instagram
P	Caption	When participants talk about captions of posts/ what makes a good caption
P	Private Account	When a participants Instagram account was set to private (they have to approve those who request to follow them before people can see their posts)
P	Public Account	When a participants Instagram account is public and is available to be seen by anyone.
P	Editing	When participants talk about editing a photo
P	Procrastination	Participant uses Instagram in an act of Procrastination
D	Influenced by others	Participant describes how others influenced their actions on Instagram
D	Social engagement	Participants describe social engagement in some form on Instagram
D	Time	Participants describe concept of time on Instagram
D	Boredom	Participant describes act of being bored while using Instagram
D	Distraction	Participants describe using Instagram as a form of distraction
D	Full Day	Participants describe a full day of Instagram use
D	Influencers/Celebrities	Participants describe Influencers or celebrities. A title of certain Instagram users
D	Dumb	Participants describe something they do on Instagram as dumb or silly
D	Entertainment	Participants describe something they do on Instagram as entertaining or engaging
D	Athletes/Sports	Participants Describe athletes or sports teams on Instagram
D	Information	Participants describe knowledge or information access from Instagram

D	Likes	Participants describe the action of likes on Instagram
D	Expectations	Participants describe expectations for interactions on Instagram
D	Online identity	Participants describe the concept of online identity or refer to their own online identity
D	True self	Participants describe the concept of true self
D	Window	Participants describe how Instagram shows a restricted view of their true self. A “window” into them
D	Mood	Participants describe mood and Instagram’s effect
D	First Download	Participant describes when and why they first downloaded Instagram
D	Representation	Participant describes a way in which representation occurs on Instagram
D	Bloggers	Participants describe bloggers
D	Relation	Participants describe the ability to relate to something on Instagram
D	Regulation	Participant describes regulation of Instagram in some form
D	Inspirational	Participants describe an action or thing seen on Instagram as inspirational
D	Attention	Participants describe something or an action that grabs their/others attention
D	Bad/Terrible	Participant describes moment or action that is bad or terrible
D	Self Confidence	Participant describes ego/self confidence/ self esteem
D	Social	Participants describe being social or a social interaction
D	Creative	Participants describe the act of being creative
D	Instagram/Social Media	Participants talk about Instagram or a different form of social media
D	Isolation	Participant describes the feeling of isolation while on Instagram
D	Delete App	Participant describes the act of deleting Instagram or other social media
D	Re Download	Participant describes redownloading an application like Instagram
D	Thief of Joy	Participant describes Instagram as a Thief of Joy

H: Interconnectivity

P	Direct Message	Participant describes sending a direct message or DM to a friend on Instagram. Often used to share a post with one another
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P	Commenting	Participant comments on a friends post or a friend comments on their post
P	Liking	Participant likes another post or has their post liked
P	Following	When a participant talks about following certain accounts/people on Instagram
D	Influenced by others	Participant describes how others influenced their actions on Instagram
D	Social engagement	Participants describe social engagement in some form on Instagram
D	Distraction	Participants describe using Instagram as a form of distraction
D	Entertainment	Participants describe something they do on Instagram as entertaining or engaging
D	Attention	Participants describe something or an action that grabs their/others attention
D	Mood	Participants describe mood and Instagram's effect
D	True self	Participants describe the concept of true self
D	Online identity	Participants describe the concept of online identity or refer to their own online identity
D	Expectations	Participants describe expectations for interactions on Instagram
D	Friends	Participant describes moments and interactions with friends of Instagram
D	Value	Participant describes something they value or another values
D	Social	Participant describes a social interaction on Instagram
D	Isolation	Participant describes the feeling of isolation while on Instagram
D	Followers	Participant describes followers on Instagram

H: Emotion

E	Discouraged	When a participant felt discouraged
E	Positive	When a participant felt a positive emotion
E	Ambivalent	When a participant felt confused or had never thought about something in the way they were being asked before.
E	Like	When the participant liked or enjoyed something
E	Happy	The participant expressed happiness about Instagram use or interaction on Instagram
E	Indifferent	When a participant describes neither being happy or upset about an action on Instagram

E	Sad	When a participant talks about being sad involving use of Instagram
E	Confidence	Participant describes feeling confident when an action on Instagram is taken
E	Negative	Participant describes a negative feeling from an action on Instagram
E	Love	Participant describes something that they love

H: Magnitude

M	Often	Participant indicates something happens often
M	More	Participants indicates something happens more as a result
M	Never/Not at all	Participant indicates something never happens or never has a result from something
M	Easy	Participant indicates it is easy to do/continue something
M	None	Participant indicates getting nothing from something or having no response to something
M	Occasionally	Participant indicates doing something not as frequent as often and more then never.
M	Lots of thought	Participant indicates to a lot of thought being put into an individual thing. I.e. a lot of thought goes into a post on Instagram
M	Not Accurate	Participant labels something as not accurate
M	Important	Participants describe a moment or action important
M	Less	Participants describe reducing something. I.e. I wish I spent less time on Instagram
M	Always	Participants describe an action as something they always do
M	Not Important	Participant describes something as not important or relevant

Appendix B: Interview Protocol
Research Study Consent Form

Study Title and Purpose: You have been invited into research, Instagram and the self. The purpose of this study is to better understand why we use Instagram and how that use effects us.

Principal Investigator:

Jake Dube, Graduate Student, James L. Knight School of Communication Dr. Kyle Lorenzani assistant professor of the James L. Knight School is the supervising faculty member.

Description and Length of Participation: In this study you will be asked to be apart of a sit down interview. This interview will take approximately twenty minutes. If you decide to participate, you will be one of approximately 20 participants in the study.

Risks and Benefits of Participation: There are no risks known at this time associated with participating in the study. However, there may be risks that are currently unforeseeable. The only benefit of participation in this study is the knowledge you will gain about Instagram. The results of the study will be used for a Graduate thesis with the possibility of being published. You may obtain a copy of all the results by contacting me any time after the conclusion of the research on April 22nd 2018. You will not receive financial reimbursement for your participation.

Volunteer Statement: You are a volunteer. The decision to participate in this study is completely up to you. If you decided to be in the study, you may stop at any time. You may skip any item you do not wish to answer. You will not be treated any differently if you decide not to participate or if you stop once you have started.

Confidentiality: All information you provide will be kept confidential. You will not be identified nor will your name appear in the data, which will be reported only in aggregate form. A pseudonym will be applied to your name to ensure confidentiality.

Fair Treatment and Respect: Queens University of Charlotte wants to make sure that you are treated in a fair and respectful manner. Contact the University's Institutional Review Board chair Dr. Jeremiah Willis, willisj@queens.edu. 704-688-2835. If you have any questions about how you have been treated as a study participant. If you have any questions about the project, please contact Jake Dube at Dubej@queens.edu.

Participant Consent:

I have read the information in this consent form. I have had the chance to ask questions about this study, and those questions have been answered to my satisfaction. I am at least 18 years of age, am an emancipated minor*, or my guardian has signed below, and I agree to participate in this research project. I understand that I am entitled to receive a copy of this form after it has been signed.

Participant Name
(PLEASE PRINT)

Participant Signature

DATE

Researcher Signature

DATE

*Emancipated Minor (as defined by NC General Statute 7B-101.14) is a person who has not yet reached their 18th birthday and meets at least one of the following criteria: 1) has legally terminated custodial rights of his/her parents and been declared "emancipated" by a court; 2) is married; or 3) is serving in the armed forces of the United States.

Interview Questions:

1. Please describe yourself.
 - a. You can describe yourself in terms of how you are socially, academically, how you are as a friend or family member, skills, characteristics, what you were like in the past or how you think you'll be in the future.
 - b. Feel free to use peers or others to make comparisons to help describe you. Also feel free to ignore all that I just said.

2. What traits do you tend to compare when comparing yourself with another?
3. Do you use the social media application Instagram?
4. Why do you use Instagram?
5. How long do you stay on Instagram whilst staying entertained?
6. How much time a day do you spend on Instagram?
 - a. In one sitting
 - b. In total for the day
7. What type of accounts do you follow on Instagram?
 - a. Why do you follow these types of accounts?
8. How much thought do you put into an Instagram post?
 - a. Do you think about the time of day/day of the week?
9. How often do you post to Instagram?
10. When you post on Instagram, do you have any expectations or goals for the post?
 - a. How do you feel when the expectations are met or exceeded?
 - b. How do you feel when your expectations are not met?
11. Do you use Instagram for comparisons with friends and peers?
 - a. Compare number of likes or comments?
12. How do you feel about how you use Instagram?
 - a. Do you wish you used it differently?
 - b. Do you wish you spent more or less time on Instagram?
13. Does Instagram ever affect your mood or your day?
14. Is there anything else you would like to say? About Instagram, how you use it, how it makes you feel, or any clarifying remarks

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