Autobiographies created by social media

The influence of influencers' automatically created autobiographies on the enhancement of self-esteem in 18 to 25-year olds

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Abstract

Social media can be used to create autobiographies because social media platforms record our thoughts, which stay on the internet permanently. The increasing use of visual social media platforms, where people can share photos and videos, such as Instagram, has an increasing influence on self-esteem. This is why the focus of this study is on the influence of automatically created autobiographies consisting of Instagram posts of 2018, either from participants themselves or from influencers, on the enhancement of self-esteem in 18 to 25-year olds. The research question was: To what extent do influencers' automatically created autobiographies directly enhance the self-esteem of 18 to 25-year olds compared to a control condition?

Through selective sampling, 33 participants with a mean age of 21,9 were used to conduct this pre-post quasi experimental research design in which an experiment was conducted with the aid of the Rosenberg Self-Esteem Scale (RSE). Participants in both conditions filled out the RSE, then the experimental condition was exposed to four already created top nines of Instagram of influencers of the same gender as the participant self, whereas the control condition did not have this exposure. Next, participants of both conditions had to download the app Top Nine of Instagram of 2018 and create an automatically created autobiography of their own posts, and study it thoroughly. Afterwards, all participants filled out the RSE for the second time.

A Mixed ANOVA was used to analyse the data, which was divided into the level 'time', consisting of the pre- and post-test of the RSE, and into the level 'group', which consisted of the two different conditions, experimental and control. This led to the result that there was no significant interaction effect between time and group, meaning that the effect of time on self-esteem was the same for participants who were in the experimental condition as well as for participants who were in the control condition.

To conclude, there was no significant difference in the self-esteem of participants, indicating that neither the pre- and post-test nor the experimental and control condition was influenced by the top nine of Instagram of influencers or of themselves. This means that there was no enhancement of the self-esteem in 18 to 25-year olds when influenced by influencers' automatically created autobiographies in comparison to a control condition. A reason that there was no difference found could be that self-esteem is a trait that is stable over time, whereas in this study it is measured at one point in time.

Keywords: self-esteem, Instagram, visual social media, autobiography

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The influence of automatically created autobiographies on the enhancement of self-esteem in 18 to 25-year olds

Nowadays, social media is a common used platform which many people make use of (Kemp, 2018). According to Kemp's study, in January of 2018, 53% of the world population of 7,593 billion people were internet users and 42% of those people were active social media users. The average internet user spends 6 hours online each day, using internet powered gadgets and services such as smartphones and laptops (Kemp, 2018). Every day, 11 new users of social media emerge per second.

When zooming in on the Netherlands, 96% of the total population of 17,06 million people are internet users and 64% actively uses social media. Dutch social media users are active on social media for 1 hour and 20 minutes per day (Kemp, 2018).

With abundant users, the functions of social media are multi-faceted. People across the world keep affiliated with each other every day through social media, in order to interact with their friends, play games, seek for products, supervise their health, find love, share photos and videos, or to go through the news and current events of their interest, which also includes searching for entertaining content (Valentine, 2018).

Social media use encompasses these aforementioned events and contexts on which users contact their peers. This contact with peers through social media is important because it forms a relationship for creating offline benefits such as friendships in real life, also referred to as social capital (Steinfield, Ellison, & Lampe, 2008). The social capital is utilized to define the benefits an individual obtains from a relationship with other individuals.

Furthermore, social media can be a function for creating autobiographies because social media platforms record our thoughts, and these stay on the internet forever (Benson, 2012). Firstly, an autobiography is defined as "a book about a person's life, written by that person" (Cambridge dictionary, 2019). However, an online autobiography catalogues and preserves every post on social media and serves as a preserved past. This allows people to look back and recall any point in live with perfect remembrance. Also, people are able to make their individual threads into a cohesive autobiographical story (Benson, 2012). Social media platforms create a biography of the life of an individual, with influences from an individual self and those who contact that individual (LaBonte, 2016). This autobiography can consist of memories, videos or photos. The latter is most used in the social media platform Instagram.

Instagram is a visual based social media platform where people can capture and share photos and videos. People can edit their posts with various filters, stickers and emojis (Hu, Manikonda, & Kambhampati, 2014). Furthermore, people can make use of Instagram stories,

which allow Instagram users to share numerous photos and videos, which are presented in a slideshow format. These photos and videos will stay online for 24 hours and then they will automatically disappear (Tillman, 2019).

Instagram was launched in 2010, and now has over 1 billion users with over 500 million daily users (Gramlike, 2018; Kemp, 2018). Moreover, the majority of users (245 million people) are between the ages of 18 and 24 years old (Kemp, 2018). The reason that Instagram became a success in such a short period of time is because of the fact that photos and videos became popular elements in social media (Hu, Manikonda, & Kambhampati, 2014), and because images catch our attention more quickly than words, especially clear images with bright colours (Balm, 2014). Also, according to Balm (2014), the fact that people process images within 100 milliseconds causes a social media post with an image included to be 10 times more likely to receive attention.

Furthermore, Instagram is particularly useful for creating autobiographies. With the growing popularity of Instagram, this social media platform may be a new way of making autobiographies, or it can be the replacement of the book. It is becoming a gathering of autobiographical fragments with a database driven logic instead of a narrative logic of cause and effect (Fallon, 2014).

With the increasing use of Instagram mentioned before, visual memory is becoming more important in society because Instagram and other social media platforms are being increasingly used as an information medium (Rossiter, 1976). In a study by Hilton (2001), visual memory had a longer and more precise duration than auditory memory, because the displayed item was cognitively processed by two different brain functions within short-term memory.

Visual memory can be researched and used by utilization of, for example, an app which generates posts of Instagram. With the app, the influence of visual memory can be studied to analyse its influence on self-esteem.

Self-esteem can be defined as a person's positive or negative interpretation of the self, the extent to which a person sees the self as valuable and competent (Vogel, Rose, Roberts, & Eckles, 2014). It has been a lengthy discussion whether self-esteem is on the one hand, a stable trait that evolves over time, or on the other hand, a fluid state that is reactive to daily events and contexts. However, in a study done by Trzesniewski, Donnellan, & Robins (2003), it was found that the stability of self-esteem was comparatively low during early childhood, enhanced throughout adolescence and young adulthood, and then decreased during midlife and old age. This indicates that it is more a stable trait that evolves over time.

Moreover, according to Ellison, Steinfield, & Lampe (2007), self-esteem can function as a moderator of the relationship between social media use and social capital. This means that young individuals with a low self-esteem benefitted more from social media usage in comparison to individuals with a higher self-esteem. Furthermore, the more usage of social media leads to more interaction with friends. This had positive effects on the self-esteem of individuals in the research of Valkenburg, Peter, & Schouten (2006).

Previous research by Trifiro (2018) showed that the usage of Instagram had positive effects towards self-esteem. However, the user outcome of this research was dependent on the intensity of use instead of Instagram usage patterns. The results indicated that users who engage with Instagram more profoundly showed higher levels of self-esteem than users who did not use Instagram profoundly.

Furthermore, posting selfies on Instagram may make one feel better about oneself because of the fact that the content posted on social media can be regulated (Khamis, 2018). According to Hill and Denman (2018), teenagers can manipulate their selfies to increase their popularity and thus, their self-esteem. This study also showed that participants with high self-esteem had the least number of provoking photos on their Instagram profile.

However, many studies found that Instagram could also have a negative effect on self-esteem. Instagram has influencers and bloggers as users, who uphold their apparently perfect lives. This can result in a sense of the 'ideal self' which can influence the user's self-esteem by wanting to escape the real life, and Instagram can encourage to show the ideal self instead of the true self (Apodaca, 2017).

Moreover, Holowka (2018) found that Instagram users are often, unconsciously, looking for validation when they upload a photo or video, not only from their peers, but also from strangers. This has an effect on their self-esteem in a way that self-esteem is greatly linked to peer relationships in which self-worth is identified with approval of others.

Another effect on self-esteem, either positive or negative, can occur when Instagram is seen as an autobiography. This autobiography of people's life has input from an individual and from those around that individual (LaBonte, 2016). The individual can decide for them self what they want to post and thus what they want to remember, or how they want to be remembered. On Instagram, people can create a hyperreal and persistent identity (Callieanya, 2014). On the one hand, this identity can be true to the self, but on the other hand, we can create this 'ideal' self or identity of ourselves as well.

This can be a positive effect, because self-esteem may increase since the individual can present themselves as their 'ideal' self on Instagram and receiving positive feedback from others, which enhances their self-esteem as well (Dungo, 2018).

However, in a study by Trub (2017), it was found that users who present their 'ideal' self on Instagram are predicted to have insecure attachment. Individuals with an insecure attachment style may be more worried about being accepted and/or rejected from their peers and may be more responsive to the feedback they obtain from others (Gorrese & Ruggieri, 2013). This illustrates a negative effect of Instagram as an autobiography.

Moreover, in a study done by Ahadzadeh, Pahlevan Sharif, & Ong (2017), it was found that when an individual notices differences between their actual and ideal self, this can result in a negative image which decreases self-esteem.

The aforementioned information about the effect of Instagram as an autobiography on self-esteem indicates that there are mixed findings, which means that there exist negative as well as positive effects on individuals.

Current study

Because of the fact that self-esteem can be influenced by autobiographies created by social media, the focus of this study lies on the direct influence of those automatically created autobiographies based on Instagram posts on the self-esteem of 18 to 25-year olds. This age group is chosen because, out of the total number of users (800 million), this group has 245 million users which is the most out of all age groups (Kemp, 2018)

The research question in the present study is: To what extent do influencers' automatically created autobiographies directly enhance the self-esteem of 18 to 25-year olds compared to a control condition? It is expected that automatically created autobiographies will enhance the self-esteem of 18 to 25-year olds.

Method

Design

For this research, a pre-post quasi experimental research design was employed. The experiment had a between-groups design, since two different conditions were compared.

The independent variable was the condition, which was the exposure to influencers' autobiographies for the experimental condition, and exposure to participants' own autobiography for the control condition. The dependent variable was self-esteem.

Furthermore, the research was approved by the Ethics Committee of the Faculty Behavioural, Management and Social sciences of the University of Twente (registration number 190264).

Conditions

In the experimental condition, the participant was exposed to four top nines of influencers of Instagram, where the influencers' gender was the same as the participant' gender (male or female) and had to study these thoroughly. After this, the participant had to generate their own top nine with the app Top Nine for Instagram 2018 and study this thoroughly as well.

In the control condition, the participants only needed to generate their own top nine with the app Top Nine for Instagram 2018 and study it thoroughly.

Participants

The target population of the present study aimed at individuals who use Instagram between the ages of 18 and 25. The participants of this study were selected through selective sampling, which means that participants who met the criteria for participation were addressed by the researcher. Therefore, participants were recruited via e-mail, Facebook, flyers, SONA systems, or a direct, personal approach. University students gained course credits in SONA by participating in the experiment.

The preconditions of taking part in the study included having an Instagram account with a minimum of 7 posts in 2018, and sufficient English language proficiency. Since the focus of this study lied on participants with the age between 18 and 25, all participants with ages below 18 and above 25 were excluded.

In figure 1, a flow chart of the participants through each stage of the experiment was given.
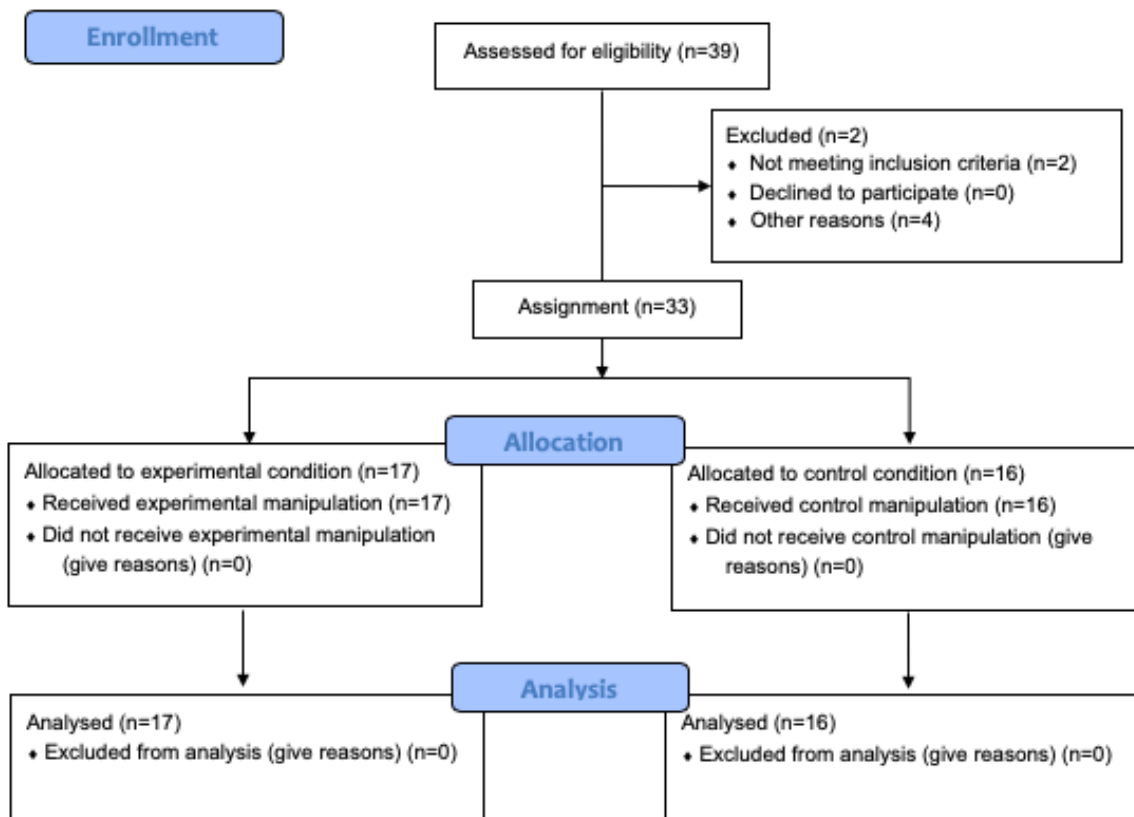
Figure 1. Flow of participants through each stage of the experiment

      In total, 39 people were approached, from which 2 did not meet the inclusion criteria and 4 did not finish the experiment. After these 6 participants, 3 of each condition, were excluded, there were 17 participants in the experimental condition and 16 participants in the control condition left. This was also the final sample.

Materials

In the present study, the Rosenberg Self-Esteem Scale (RSE) was used to measure self-esteem, along with the Top Nine of posts of influencers on Instagram which were displayed in the questionnaire, and a mobile device with the app Top Nine downloaded on it. This mobile device also needed internet connection.

Top Nine for Instagram 2018

The app Top Nine for Instagram 2018 generated a top nine of an individual's photos of their Instagram posts of 2018. A grid with the photos posted in 2018 was created, in order of the number of likes. Underneath the grid the number of likes of the nine photos in total was given, along with the average likes per post. This grid could be saved in order to share on other social

media platforms, or a video could be saved in which all photos are shown separately with the number of likes.

<u>Rosenberg Self-Esteem Scale (RSE)</u>

The "Rosenberg Self-Esteem Scale (RSE)" (Rosenberg, 1965) was used to examine self-esteem. This questionnaire consisted of 10 items which were rated on a 4-point Likert scale (1 = strongly agree; 4 = strongly disagree). An example item was "On the whole, I am satisfied with myself".

To calculate a total score, the scores for all ten items were added up. Total scores ranged from 10 to 40, whereby scores between 15 and 25 were deemed normal range and scores below 15 reflected low self-esteem (W.W. Norton & Company, 2019).

According to previous research by Vermillion and Dodder (2007), the RSE was a reliable measure, with a Cronbach's alpha of .86. In this study, the Cronbach's alpha was 0.84.

Procedure

The experiment took place between the 8th of April and the 5th of May. The participation of all subjects was voluntarily, which was ensured through an informed consent.

At the start of the experiment participants were told that the study would take approximately 30 minutes of their time. After this, they were given instructions to read the informed consent, which stated that all the data was made completely anonymous and would not be disclosed to any third parties. Furthermore, they had to agree with the consent in order to continue with the experiment. Afterwards, the subjects were asked to answer some demographic questions. Following these questions, participants were asked to fill out the Rosenberg Self-Esteem Scale, which took 2 minutes.

Next, the experimental condition was exposed to four already created top nines of Instagram of influencers of the same gender as the participant self (see Appendix 1). After the participants studied the pictures, they had to download the app Top Nine of Instagram of 2018 and create an automatically created autobiography of their own posts, and study it thoroughly. This step took approximately 10 minutes.

For the control condition, the participants only had to download the app Top Nine of Instagram of 2018 and create an automatically created autobiography of their own posts, and study it thoroughly. This step took 5 minutes.

Afterwards, all participants filled out the Rosenberg Self-Esteem Scale for the second time. At the end of the questionnaire, the participants were thanked for their time and effort they putted into the experiment.

Data analysis

Analyses were conducted using IBM SPSS Statistics 24.

First, the means, standard deviations, minima and maxima of the age, the gender distribution, and the pre-test scores on self-esteem of participants from the experimental and control condition, as well as in total, were calculated for the descriptive statistics.

Then, the baseline differences were analysed, using an independent samples t-test and a chi-square test, with the test variables being the pre-test scores of both the experimental and control condition, and the grouping variable were the demographics of both the conditions.

Next, the normality of the data of the dependent variable, self-esteem, was analysed with the Shapiro-Wilk test, using General Linear models. For the control condition, a p-value of .361 was calculated thus a normal distribution was found. For the experimental condition, a p-value of .916 was calculated which also indicates a normal distribution. Also, the normality of the data of the independent variable, condition, was analysed with the Shapiro-Wilk test, using General Linear models. The p-value of the scores of the pre-test were .254, and of the post-test .981, which both indicate a normal distribution.

Subsequently, a mixed ANOVA was conducted to see if the experimental condition improved significantly more on self-esteem between pre-test and post-test as compared to the control condition. This improvement was predicted to be induced by exposure to the autobiographies of either influencers, or of participants' own.

The independent variable, condition, had two levels which were 'between-groups factor' and 'group'. The dependent variable was self-esteem, which again consisted of two levels, namely 'within-group factor' and 'time'.

A 2x2 mixed ANOVA with repeated measures on 'time' variable analysis, with a significance level of .05, was used. In this analysis, the assumption of sphericity was violated, so the degrees of freedom Greenhouse-Geisser ($\varepsilon = 1.00$) were corrected.

Results

Descriptive statistics

In total, 33 people participated (M_{age}= 21.9, SD_{age}= 1.7). In Table 1, the means and standard deviations of age, the gender distribution, and the pre-test scores on self-esteem of participants from the experimental and control condition, as well as in total, are presented.

Table 1

Means and standard deviations of age, gender distribution, and pre-test scores on self-esteem of participants from the total, experimental and control condition

	Experimental condition	Control condition	Total
Mean age (SD)	20.9 (1.181)	22.8 (2.228)	21.9 (1.705)
Male (N)	6	3	9
Female (N)	11	13	24
Pre-test scores self-esteem	24.71	23.56	48.27

The majority of the participants was female with a mean age of 21.9.

Baseline differences

The aforementioned different number of participants allocated to the conditions, is one of the baseline differences. Other baseline differences emerged in the age and gender distribution. Two independent-samples t-tests and a chi-square test were conducted to calculate and compare these baseline differences.

In the first test, an independent-samples t-test was used to compare the age of the participants of both the control and the experimental condition. There was no significant difference for age in the control condition (M=22.8, SD=2.2) and the experimental condition (M=20.9, SD=1.2); t(13)=.857, p=.371.

For the second test, a chi-square test was used to compare the gender distribution in both conditions. In the experimental condition, there were 6 males and 11 females, and in the control condition there were 3 males and 13 females. There was no significant difference calculated in the gender distribution in the experimental and the control condition, $\chi(1) = 1.678$, p = .195.

In the third test, again an independent-samples t-test was used to compare the pre-test self-esteem scores of the experimental and control condition. There was no significant

difference in the pre-test self-esteem scores for the experimental condition (M=24.6, SD=2.6) and the control condition (M=23.56, SD=2.8); t(14)=.083, p=.778.

Pre- and post-effects on self-esteem

To examine to what extent influencers' automatic created autobiographies directly enhance the self-esteem of 18 to 25-year olds, a mixed ANOVA was conducted.

The results showed that self-esteem did not differ significantly over time; main effect of time, F(1,2)=0.91, p=.440. This effect indicates that self-esteem did not decrease or increase within participants over time. Contrasts showed that self-esteem was not significantly different before or after the experiment F(1,2)=0.91, p=.440.

Moreover, the results showed that self-esteem did not differ significantly within groups; main effect of group, F(13,2)=9.22, p=.102, indicating that self-esteem was not greater or worse in neither the experimental nor the control condition. This means that the effect of the different conditions on self-esteem was the same for participants, regardless what condition they were allocated to.

Finally, as can be derived from the aforementioned effects, there was no significant interaction effect between time and group F(13,2)=0.75, p=.703. This indicates that the time x group interaction was not different for the participants. This means that the effect of time on self-esteem was the same for participants who were in the experimental condition as well as for participants who were in the control condition.

Discussion

The research question of this study was: To what extent do influencers' automatic created autobiographies directly enhance the self-esteem of 18 to 25-year olds compared to a control condition? The research question was answered by studying the effects of influencers' and own automatically created autobiographies, which were created with the app Top Nine for Instagram 2018.

The results showed that influencers' automatically created autobiographies do not enhance the self-esteem of 18 to 25-year olds compared to a control condition in as much as that no direct effects were found on self-esteem regardless of condition. Also, there was no significant effect of the pre- and post-test on the enhancement of self-esteem.

This outcome contradicts with previous research because in a study done by Trifiro (2018), it was found that Instagram usage increased self-esteem when used more profoundly. Furthermore, in the study described in the introduction done by Hill & Denman (2018), it was found that teenagers who posted pictures which they had manipulated themselves caused an increase in their popularity and thus, their self-esteem. Also, Valkenburg, Peter, & Schouten (2006) found that the more usage of social media leads to more interaction with friends, which in turn led to positive effects on the self-esteem of individuals.

A reason that this research contradicts with previous researches may be that the participants did not manipulate and post their photos within the experiment, so their self-esteem was not affected related to that manner. Also, it may be that this research focusses more on the influence from already posted photos that the participants get confronted with (again). Nevertheless, the fact that it focusses on another aspect of Instagram usage can also be seen as a positive development that can promote a new area of research.

Another reason that this research contradicts with previous researches may be because of the fact that self-esteem is perceived as a stable trait over time which enhances during adolescence and young adulthood (Trzesniewski, Donnellan, & Robins, 2003). This research studies one specific point in time instead of a longer period over time, so this may be a reason that results contradict. Furthermore, since self-esteem is enhancing during adolescence, which is the age group focused on in this research, it may be that self-esteem has already reached its highest point and cannot be influenced to increase any further.

However, there is also research with which this outcome corresponds. In the study by Trub (2017), which was mentioned in the introduction, he found that users who show their 'ideal' self on Instagram are predicted to have insecure attachment and thus are more worried about being accepted and/or rejected from their peers. This concept of the 'ideal' self was also

studied before in research by Apodaca (2017). She found that individuals upholding the 'ideal self' want to escape the real life and Instagram encourages to show the ideal self instead of the true self.

Also, Ahadzadeh, Pahlevan Sharif, & Ong (2017) found that when differences between an individuals' actual and ideal self are identified, a negative image may develop which decreases self-esteem.

A reason that this research corresponds with previous researches is because this study also focusses on a factor that can be linked to the 'ideal' self, namely the automatically created autobiographies of the influencers, with which individuals in the experimental condition may have compared themselves with.

Strengths and limitations

A strength of this present study is that a quasi-experimental design was used. This design does not use randomization, is useful for generalization for populations, and is effective in longitudinal research that contains longer time periods which can be followed up in various environments.

Furthermore, the outcome is contradicting with most previous research, so there could be a gap in the literature or even new evidence that there is less or no enhancement of self-esteem in 18 to 25-year olds when influenced by influencers' automatically created autobiographies.

However, there were a few limitations to this study. In total, there were only 33 participants that were usable for this study. Therefore, this sample is not useful to draw credible conclusions from and to compare with other populations. This lower number of participants can be due to the fact that this study was an experiment, meaning participants had to come to different locations to conduct the experiment, while an online study can be done when- and wherever the participant wants do. Also, the low number can be explained by the fact that a minimum amount of 7 posts on Instagram in 2018 was needed to participate, which may have caused a selection bias to occur.

Future research recommendations

Since Instagram still has an increasing number of users every day, future research efforts are necessary to study the positive effect of Instagram posts of influencers on self-esteem more intensely. A potential branch of research can be the posts of these influencers in particular because these can create an 'ideal' self from which individuals may grow a greater self-esteem.

Future research can be done with increasing numbers of participants in order to get a more credible sample of a greater population, and to achieve a more reliable research outcome. This can be done by making the experiment an online experiment or questionnaire, therefore participants can participate where- and whenever they want.

To conclude, there was no significant difference in the self-esteem of participants regardless of condition or time. This indicates that there was no enhancement of the self-esteem in 18 to 25-year olds when influenced by influencers' automatically created autobiographies in comparison to a control condition. Overall, confrontation with Instagram posts of either participants themselves or influencers do not have an influence on the amount of self-esteem in 18 to 25-year olds, in this study.

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Appendix

Appendix 1: photos of the influencers top 9 of Instagram
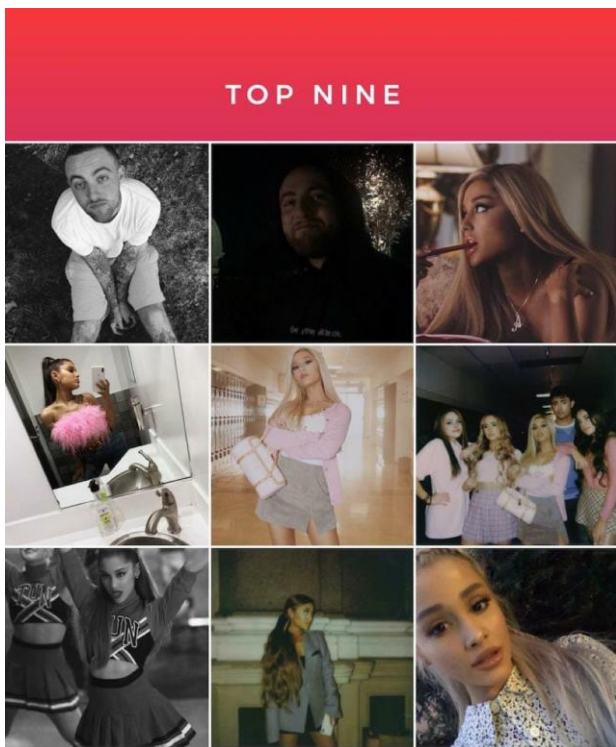
TOP NINE

iamcardib received **805.9m** likes in 2018 🎉

Life is all about experiences. Rediscover your top nine Instagram moments from 2018.

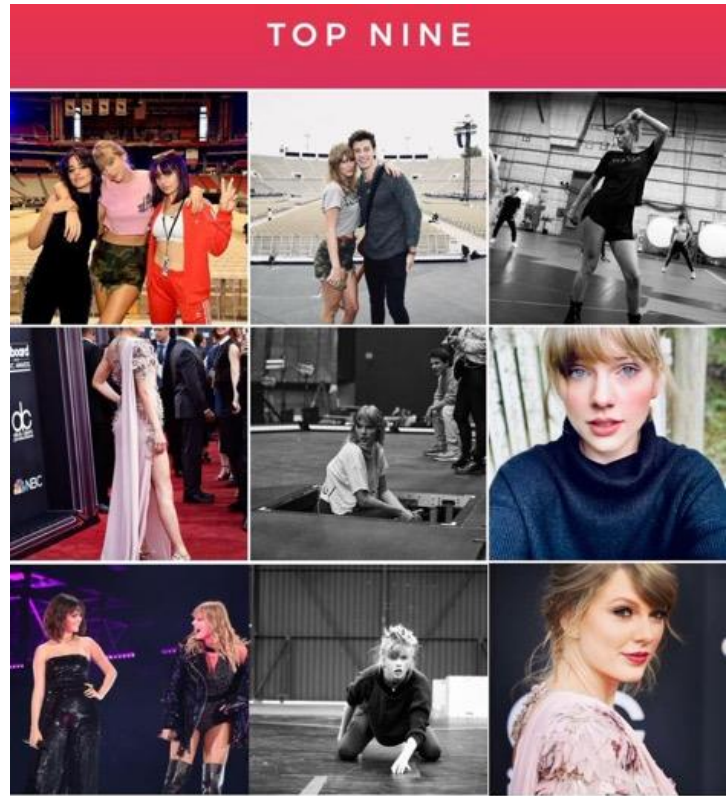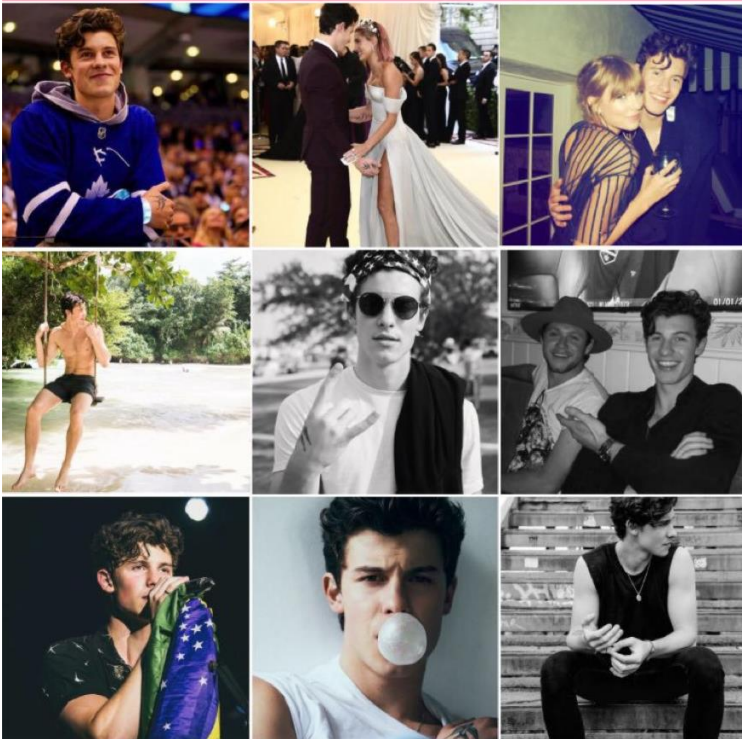Share them with your friends using the hashtag #TopNine .

MADE WITH TOP NINE APP

TOP NINE

taylorswift received **231.1m** likes in 2018 🎉

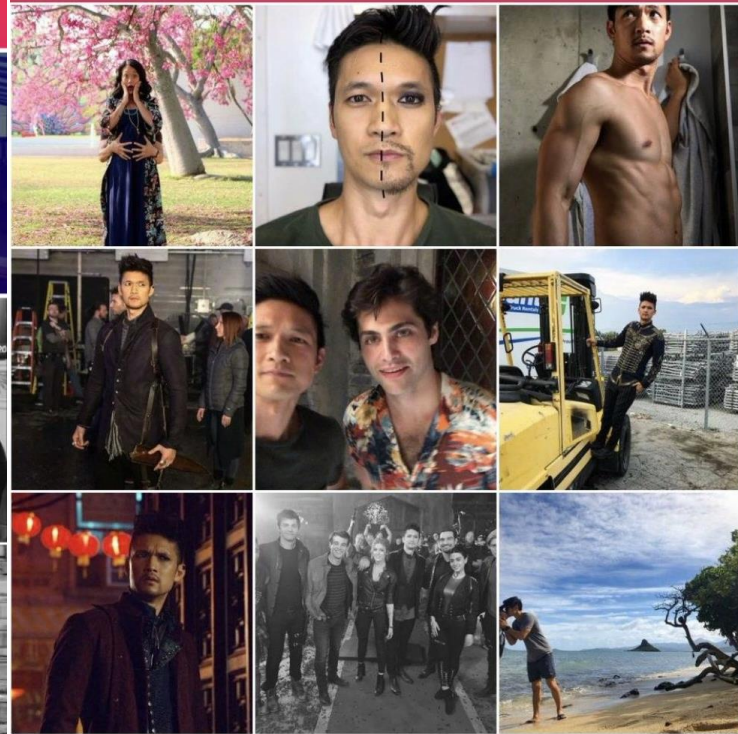Life is all about experiences. Rediscover your top nine Instagram moments from 2018.

Share them with your friends using the hashtag #TopNine .

TOP NINE

shawnmendes received **523.1m** likes in 2018 🎉

TOP NINE

harryshumjr received **18.7m** likes in 2018 🎉