# UNIVERSITY OF TWENTE.

Master Thesis

# Online Social Identity of Young People through Instagram

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# Abstract

**Purpose -** Young people between the age of 16 to 24 years old live in a digital age where they can share own and creative content with others online on social media. The most popular and upcoming social media platform among young people is Instagram. Instagram is a visual focused social media platform where young people have an online presence, and thereby create a social identity online. Young people namely use Instagram to connect and interact with others that are like them to feel part of a social group online, which would create a social identity online. The aim of the present study is therefore to investigate what influence 1) social connectedness on Instagram, 2) number of followers on Instagram, 3) number of likes on Instagram, and 4) activity on Instagram have on the online social identity of young people, with gender as moderator.

**Method -** In this study an online questionnaire was conducted and distributed through the social media platforms Facebook, Twitter, Instagram, LinkedIn, and WhatsApp. Data was collected through the online questionnaire from young people between the age of 17 to 24 years old, who live in the Netherlands, who speak the Dutch language, and who have and use an Instagram account. After the data was collected, the hypotheses of this study were tested with four multiple regression analyses.

**Results -** The results of this study showed that being socially connected with others on Instagram and being active on Instagram positively influences the online social identity of young people. No significant effects were found of the number of followers and likes on Instagram, and gender as moderator on the online social identity of young people.

**Conclusion -** This study found that being socially connected on Instagram with other users that share similar characteristics and interests, and that being active on Instagram positively influences the online social identity of young people. The social media platform, Instagram, thus has an influence on the online social identity of young people. The online social identity that young people will develop, with contribution of Instagram, will be the basis for all social interactions, now and in the future online. It is therefore important that young people are aware that they are developing a social identity online.

# Table of Content

# 1. Introduction

Do you log in to your social media accounts, such as Facebook, Instagram, or Twitter every day? In the Netherlands, more than seven million people use their social media accounts on a daily basis, with the expectation that this number will only increase in the future (Vader, 2020; Van de Ketterij, 2019; Van der Veer, 2021). The internet has therefore become an integral part of our everyday life and routines (Van de Ketterij, 2019). Our way of communicating, for example, shifted largely from the offline to the online world through social media, especially among young people (Vader, 2020; Van de Ketterij, 2019). The most popular and upcoming social media platform, where the communication occurs between young people, is Instagram (Vader, 2020). Instagram is a visual focused social media platform where users communicate through the posting and sharing of pictures and videos with others via a mobile application (Bos, 2015). The mobile application is most used by young people, namely 60 percent of young people between the age of 15 to 24 years old can be found on Instagram in the Netherlands (Vader, 2020). The social media applications, such as Instagram, thus ensure that young people communicate everywhere and at any time with each other (Barker, 2012; Pew Research, 2010; Vader, 2020).

However, not only the communication between young people experienced a shift from offline to online, so has the identity of young people. Previous research mostly focused on the relationship between social media and the personal identity (Frunzaru & Garbasevschi, 2016; Jung & Hecht, 2004; Marwick, 2012). The personal identity on social media consists of the self-presentation and self-image of a person on the internet on the individual level (Frunzaru & Garbasevschi, 2016; Marwick, 2012). Yet, various research has stated that the most prominent motivation for young people to use social media is to connect and interact with others that are like them, which would create a social identity online (Barker, 2012; Lee et al., 2015; (McKay et al., 2005). The social identity online can be described as the "online membership and belongingness of an individual to a social group in a particular digital world", in this study Instagram (Subrahmanyam & Šmahel, 2011).

The membership and belongingness to a social group is a psychological need for young people, young people namely want to socially identify with others that share similar characteristics and interests (Barker, 2012; Pagani et al., 2011). The social identification occurs when young people are connected and interacted with others that are like them (Barker, 2012; Pagani et al., 2011). The social connectedness and the interaction with others then lead to the construction of social groups, which help shape the social identity of an individual (Strangor &

Wallinga, 2014; Tajfel, 1978). In addition, when young people have a sense of belongingness to a social group and feel support from their social group for their social identity, it can moreover lead to a positive individual and collective well-being (Barker, 2019; Seibel, 2019; Sharma & Sharma, 2010).

The need for belongingness to a social group and the sense of support from the social group are no longer exclusive to the offline world for young people, it is moreover of importance online (Barker, 2019; Seibel, 2019; Strangor & Wallinga, 2014; Walz, 2009). In the online world social media platforms, as Instagram, give young people the opportunity to feel a sense of belongingness to a social group by connecting and interacting with others that an individual can socially identify with online (Barker, 2012). The online social connections and interactions with others also construct social groups online on Instagram, which are being presented by the followers a user has on Instagram (Barker, 2019; Seibel, 2019; Strangor & Wallinga, 2014; Tajfel, 1978; Walz, 2009). Furthermore, the sense of support from the social group is expressed in the likes that a user receives on Instagram from their followers (Barker, 2019; Seibel, 2019; Walz, 2009). The followers and likes are thus of importance for young people online on Instagram and can help shape the social identity online of young people (Barker, 2019; Seibel, 2019; Strangor & Wallinga, 2014; Tajfel, 1978; Walz, 2009).

The online social identity that young people will develop, will be the basis for all social interactions online, now and in the future (Sharma & Sharma, 2010). Previous studies have stated that the more active an individual is on social media, the more aware a person would be of their identity online, and that the individual then can construct an identity to their liking (Frunzaru and Garbasevschi, 2016; Pagani et al., 2011; Seibel, 2019). Thus, the more active a person is on Instagram, can ensure that they develop a social identity online that fulfills their need for belongingness and support from their social groups (Frunzaru and Garbasevschi, 2016; Pagani et al., 2011; Seibel, 2019). However, Instagram is used equally by females and males, but past studies found that females are more aware of their social identity in offline spaces (Burn et al., 2000; Frunzaru & Garbasevschi, 2016). The question thus remains if females will also be more aware of their social identity online than males.

Previous research thus has been conducted on the relationship between social media and the personal identity, and between the social identity and offline spaces. However, the relationship between a specific social media platform, Instagram, and the social identity online of young people is understudied. The aim of this study is therefore to answer the following main research question:

*"To what extent do social connectedness, followers, likes, and activity on Instagram influence the online social identity of young people between the age of 16 to 24 years old in the Netherlands?"*

## 2. Theoretical Framework

This chapter provides the theoretical framework of this study which focuses on the online social identity of young people between the age of 16 to 24 years old through Instagram. In this section the social identity of young people, with the social identity theory is described. Furthermore, the connection between social identity, the online world, and the social media platform Instagram is made. Moreover, the possible influences of the factor's social connectedness, followers, likes, and activity on Instagram on the online social identity are discussed. Lastly, the moderator of this study, gender, is explained.

### 2.1. The Social Identity

The identity expressed on social media by young people goes beyond the personal identity. The personal identity consists of the self-concepts and self-images of an individual and is a characteristic of a person at the individual level (Jung & Hecht, 2004; Subrahmanyam & Šmahel, 2011). The personal identity in relationship with social media has been researched in previous studies (Frunzaru & Garbasevschi, 2016; Marwick, 2012; Subrahmanyam & Šmahel, 2011). The studies found that the personal identity online, moreover, revolves around how individuals think about themselves and how they want to present themselves online to others (Frunzaru & Garbasevschi, 2016; Marwick, 2012; Subrahmanyam & Šmahel, 2011). The presentation of themselves can be influenced by the individual self if they are aware of their personal identity online, they can then create a personal identity to their liking on social media (Frunzaru & Garbasevschi, 2016; Marwick, 2012; Subrahmanyam & Šmahel, 2011). However, Barker (2012), Lee et al. (2015), and McKay et al. (2005) stated that young people use social media to connect and interact with others who are like them, which would create an identity at the group level online. Social media are namely communal-based platforms where individuals are part of a social group, the social group then influences an individual's identity (Seibel, 2019; Strangor & Wallinga, 2014; Vernuccio et al., 2015). The identity expressed on social media by young people would therefore be the social identity.

The theory that explains the social identity is the Social Identity Theory. The Social Identity Theory was developed in the domain of psychology in 1978 by Tajfel (1978). He stated social identity as "a person's sense of who they are based on their group membership" (Tajfel, 1978). According to Tajfel and Turner (1986), the social groups that an individual belongs to are the most significant aspect of the social identity. The social group, as part of the Social Identity Theory, is defined by Tajfel and Turner (1986) as "a collection of individuals who

perceive themselves to be members of the same social category and share some emotional involvement in the common definition of themselves". So, the social identity of an individual is based on and composed by the social group that an individual belongs to (Tajfel & Turner, 1986).

The time in which young people develop their social identity is during adolescence (Crocetti & Rubini, 2020). Adolescence is the developmental stage of individuals between the ages of 10 to 24 years old, however young people from the age of 16 can affirm for themselves (Kind en Onderzoek, 2021; Sawyer et al., 2018). This is because, young people from the age of 16 have the right to make their own discissions (Kind en Onderzoek, 2021; Sawyer et al., 2018). Within the years of adolescence young people develop a coherent and stable understanding of their social identity and think about themselves and whom they want to develop into (Crocetti & Rubini, 2020).

The development of the social identity for young people is moreover important because young people have a need to feel part of a social group, (Barker, 2019; Seibel, 2019; Sharma & Sharma, 2010). This is because the interaction with others with a shared social identity, and support for the social identity from the social group can lead to a positive individual and collective well-being (Barker, 2019; Seibel, 2019; Sharma & Sharma, 2010). Well-being represents happiness, a good life and satisfactory at the individual level for individual well-being, and at the group level for collective well-being (Sharma & Sharma, 2010).

## 2.2. Connecting on Instagram

The Social Identity Theory of Tajfel was not developed for the online world, however the present study focuses on the online social identity. The social identity, and psychological need for belongingness experienced a shift from offline to online, due to the extensive use of social media among young people (Barker, 2019; Seibel, 2019; Strangor & Wallinga, 2014; Subrahmanyam & Šmahel, 2011; Van de Ketterij, 2019). The online social identity for this study is then also defined by "an individual's membership and belongingness to a social group in a particular digital world" (Subrahmanyam & Šmahel, 2011), in this study Instagram. Instagram is namely a visual-focused mobile application where users can post and share pictures and videos, like and comment on posts, tag other users, bookmark posts, and chat via private messages with others (Bos, 2015; Rouse, 2017). Furthermore, Instagram is widely used by both young females and males in the Netherlands, namely 60 percent of young people between the age of 15 to 24 years old are active users of Instagram (CBS Stateline, 2019; Vader, 2020).

Young people therefore have a multitude of social and psychological motivations to use Instagram. The work of Lee et al. (2015) revealed that social interaction, self-expression, archiving, escapism, and peeking are the primary motivations for young people to use Instagram. The reasoning for these motivations is that Instagram became a powerful medium for self-presentation, for escaping real life, and for making connections with others online (Lee et al., 2015). Moreover, the social interaction with others is the most prominent motivation for young people to use Instagram, as individuals use social media to connect with others online (Barker, 2012; Lee et al., 2015; McKay et al., 2005). The connections with others on Instagram are made via various ways, such as the expression of shared characteristics and identity utilizing pictures and videos, and by liking and following another user's content (Barker, 2012; Lee et al., 2015; McKay et al., 2005; Seibel, 2019; Strangor & Wallinga, 2014). Sharing content on Instagram is easy for young people because Instagram is a user-generated network site that encourages the users to post own and create content online (Conger, 2019; Lee et al., 2015; Subrahmanyam & Šmahel, 2011). In addition, young people have the need to feel part of a social group, the sense of belongingness to a social group is therefore the most significant reason for young people to connect with others online (Barker, 2012; McKay et al., 2005). The social connections with others online are thus the basis for the establishment of the online social identity (Barker, 20120; Seibel, 2019; Vernuccio et al., 2015). In conclusion, the online social connectedness is a key aspect for the online social identity of young people (Lee & Robbins, 1995; Subrahmanyam & Šmahel, 2011). In the present it is therefore expected that social connectedness has a positive influence on the online social identity of young people.

**H1:** Being socially connected with other users that share similar characteristics and interests on Instagram positively influences the online social identity of young people.


## 2.3. The Expression of Connection and Belongingness: Likes and Followers

The social connectedness and the sense of belongingness to a social group for young people occurs by following and liking other user's content on Instagram (Seibel, 2019; Van Zadelhoff, 2020; Walz, 2009). The followers and likes that a user receives on Instagram are namely the two most important aspects of Instagram for the Instagram users (Seibel, 2019; Van Zadelhoff, 2020).

Firstly, the number of followers a user has on Instagram can be seen by every Instagram user (Conger, 2019; Van Zadelhoff, 2020). By following other users on Instagram, a personalized feed for each individual user is created (Seibel, 2019). The feed is composed by content that is created by other Instagram users that this person follows (Seibel, 2019). The

followers are moreover the people that this person is associated with on Instagram (Ross, 2019; Seibel, 2019). The manifestation of the social groups therefore starts with the followers a person has on Instagram (Ross, 2019; Seibel, 2019). Furthermore, previous research of Seibel (2019) and Walz (2009) found positive relationships between belongingness to social groups online and the number of friends or followers a user has on social media. According to Seibel (2019) and Walz (2009), the more followers a user has on social media, the more support an individual feels from their social groups on social media for their online identities, such as the online personal identity. Moreover, the number of followers can fulfill the need for belongingness to a social group that share similar characteristics, interests, and identities online (Seibel, 2019; Walz, 2009). The online social group, the followers, is thus the group where an individual's online social identity is based upon (Seibel, 2019; Walz, 2009). Therefore, it is moreover expected that the more followers an Instagram user has on Instagram the more positive the influence is on the online social identity of young people.

**H2:** High number of followers on Instagram positively influences the online social identity of young people.

Secondly, the number of likes on a post can only be seen by the Instagram user itself, this is since 2019 (Conger, 2019; Van Zadelhoff, 2020). Before 2019, every Instagram user could see the number of likes that a user received on posts on Instagram (Conger, 2019; Van Zadelhoff, 2020). Instagram made this change so that the users focus less on the number of likes and more on the creativity and content of posts (Conger, 2019). However, corresponding to the number of followers, the number of likes can also be seen as support from other users with shared characteristics and interests, the social group, for the user and the content posted on Instagram (Barker, 2019; Seibel, 2019). Moreover, this reinforces the connection and interaction with others from the social group online that a person's online social identity is based upon (Seibel, 2019). Furthermore, previous research of Seibel (2019), and Walz (2009), found that the likes on social media are also seen as support for the online identities, such as the personal identity, of an individual on social media. Thus, the more likes a person receives on social media from their social group, the more support they feel for their online identities (Seibel, 2019; Walz, 2009). It is therefore expected that the more likes a user receives on posts on Instagram the more positive the influence is on the online social identity of young people, because they then feel support for their online social identity.

**H3:** High number of likes on posts on Instagram positively influences the online social identity of young people.

## 2.4. Active Use and Awareness on Instagram

Every young individual with an Instagram account creates a social identity online, actively, or passively. The Instagram users who actively post content and who actively make use of Instagram should be more likely to be aware of their social identity online (Frunzaru & Garbasevschi, 2016). Previous research of Frunzaru and Garbasevschi (2016) namely found that the active users of the social media platform, Facebook, are aware of their online personal identity and could manage their personal identity online on Facebook. The active Instagram user thus can manage their online social identity, if they aware of their social identity online (Frunzaru & Garbasevschi, 2016; Marwick, 2013; Subrahmanyam & Šmahel, 2011). So, if the Instagram users are aware of their online social identity, they can post content on Instagram that fits their online social identity (Conger, 2019; Lee et al., 2015; Pagani et al., 2011). Moreover, the more active the Instagram user is, the larger the chance is to interact and connect with others who are similar to them and have a shared social identity online (Frunzaru & Garbasevschi, 2016; Pagani et al., 2011). Therefore, it is hypothesized that the more active the Instagram user is, the more positive the influence is on the online social identity.

**H4:** Being active on Instagram positively influences the online social identity of young people.

## 2.5. Gender Difference on Social Media

As stated, Instagram is widely used in the Netherlands by both young females and males (CBS Stateline, 2019; Vader, 2020). However, this does not indicate that females and males use Instagram the same when it comes to their social identity (Burn et al., 2000; Shumaker et al., 2017). Past studies of Burn et al. (2000), and Shumaker et al. (2017) underlined that females are more aware and interested in the online and offline social identity, and its expression in their social life, for example by posting pictures on social media to support feminism (Burn et al., 2000; Shumaker et al., 2017). Furthermore Burn et al. (2000) found that females are more supportive of other females in real life, regarding self- and group identification, than males are of females. This is because, females communicate with feelings, for example happiness, and believes, for example for feminism, in the social experience of connecting and interacting with others (Burn et al, 2000; Shumaker et al., 2017). Therefore, it is expected that the influence of Instagram on the online social identity is higher for females than males.

**H5:** Gender will moderate the influence of Instagram on the online social identity of young people in that the influence of Instagram on the online social identity will be larger for young females than for young males.

## 2.6. Conceptual model

**Figure 1**

*Conceptual Model Online Social Identity*
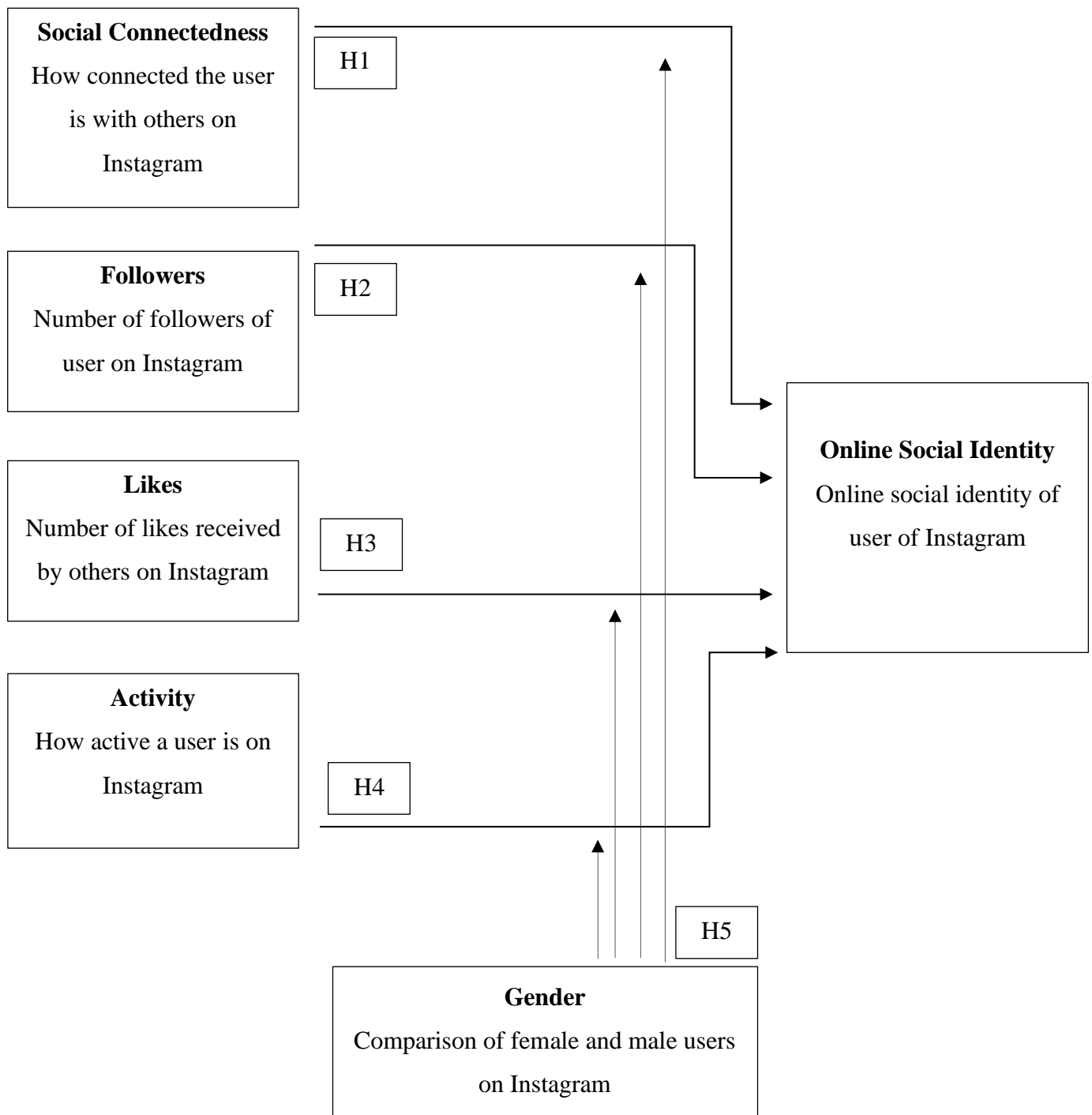
# 3. Method

## 3.1. Research Design

For this study a quantitative research design, an online questionnaire was conducted to measure and test what factors influences the online social identity of young people between the age of 16 to 24 years old in the Netherlands through Instagram. The primary purpose of this study was to investigate the influence of the four independent variables, social connectedness on Instagram, number of followers on Instagram, number of likes on Instagram, and activity on Instagram, on the dependent variable online social identity, with gender as moderator.

## 3.2. Research Procedure

Prior to the distribution of the online questionnaire ten pre-tests among five Dutch females and five Dutch males between the age of 16 and 24 years old were conducted to test the online questionnaire. The ten pre-tests firstly indicated that the third filter question of "Do you use your Instagram account daily?" would filter out a large number of respondents. This filter question was therefore changed to "Do you make use of your Instagram account?", with two answer option of yes and no. Secondly, the pre-tests indicated that the question "What is your work- / study situation?" could not be answered fully by respondents if the respondents could only click on one answer. This was changed so that the respondents could click on multiple answers, because for example, a student can also be working parttime instead of only studying. Thirdly, in the questionnaire questions are asked about the online social identity, and how it consists of an identity developed by a person's social group online. The pre-tests clearly indicated that a definition needed to be added of social groups, this has been added to the online questionnaire. Lastly, the participants of the pre-tests indicated that it was difficult that the 6-point Likert scale of social connectedness had no center of "Neither agree nor disagree". This answer option has been added to the Social Connectedness Scale in the questionnaire. The pre-test questionnaire is presented in Appendix A.

Thereafter, the online program Qualtrics, hosted by the University of Twente, was used to conduct the online questionnaire. The online questionnaire was distributed via the social media platforms Instagram, Facebook, LinkedIn, Twitter, and WhatsApp. In the online questionnaire the respondents were first asked to give their consent to participate in the questionnaire, it was moreover stated in the consent that the survey is completely anonymous, so for example, no names of the respondents were asked. When "Yes, I agree" was answered after reading the consent, the participants would proceed to the three filter questions. Thereafter,

demographic information was asked about the participants. The demographic questions were followed by questions about the number of followers and likes that an Instagram user receives on Instagram. Thereupon the Social Connectedness Scale was used to ask the participants about their social connectedness with others on Instagram. After these questions were filled in, the participants would move on to questions about their activity on Instagram using the Scale of Active Social Network Use. The last scale that was used in the online questionnaire was the Collective Self-Esteem Scale to ask participants about their online social groups. All three scales will be further elaborated on in the measurements section. The online questionnaire was ended with a word of thanks and the email address of the researcher if the respondents had questions or would be interested in the results. The questionnaire in Dutch is presented in Appendix B, the questionnaire in English is presented in Appendix C, the approval of the Ethics Committee of the University of Twente is presented in Appendix D, and the coding sheet of the questionnaire is presented in Appendix E.

### 3.3. Respondents

The online questionnaire was conducted among young people, females, and males, aged between 16 and 24 years old, who live in the Netherlands, who speak the Dutch language, and who have and use an Instagram account. The ages of 16 to 24 years old were chosen because this is the largest and most active user group of Instagram in the Netherlands (CBS Stateline, 2019; Vader, 2020). Furthermore, young people within this age group start to develop their social identity, online and offline, and are old enough to affirm for themselves (Kind en Onderzoek, 2021; Seibel, 2019; Thorbjørnsen et al., 2007).

The sample size of this study is based on a priori power analysis using G*Power 3, the target sample size was set at 125 participants (Beyens et al., 2020; Linear multiple regression: Fixed model, $R^2$ deviation from zero; $\eta^2 = 0.10$, $\alpha = 0.05$ and power $= 0.80$). Additionally, the snowball sampling method, in which respondents were asked to moreover share the questionnaire with their network, was used to increase the sample size. The sample size of this study was thus set at 125 participants and was achieved with 128 participants after filtering out respondents.

To filter out respondents of the online questionnaire inclusion criteria were used. The first inclusion criterion is that the respondents need to be within the age group of 16 to 24 years old, here nineteen respondents were filtered out. The second inclusion criterion is that the respondents have an Instagram account, this was asked with the following filter question 'Do you have an Instagram account?' with two answer options of 'Yes' (1) and 'No' (2). The five

respondents who answered 'No' were directly filtered out. The third inclusion criterion is that the respondents use their Instagram account, this was asked with the filter question 'Do you make use of your Instagram account?' with two answer options of 'Yes' (1) and 'No' (2). The four respondents who answered with 'No' were filtered out. Additionally, there were 41 respondents who did not complete the online questionnaire after answering the filter questions. In total 69 respondents were filtered out, and a total of 128 participants were included in the data analysis.

The demographic information of the 128 respondents is presented in Table 1. The respondents are between the age of 17 and 24 years old, with a mean age of 21.5 years ($SD =$ 1.89). The gender distribution is 76.6% female and 23.4% male. The biggest percentage of the respondents (56.3%) live in the province Overijssel. The educational level of the respondents is mostly distributed between HBO with 35.9% and WO with 25.8%. Lastly, most of the respondents are students with 69%.

**Table 1**

*Demographic Information Respondents Questionnaire*

| Demographic Characteristics | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Gender | 1 Female | 98 | 76.60 | 76.60 | 76.60 |
| | 2 Male | 30 | 23.40 | 23.40 | 100 |
| Province | 1 Groningen | 3 | 2.30 | 2.30 | 2.30 |
| | 4 Overijssel | 72 | 56.30 | 56.30 | 58.60 |
| | 5 Flevoland | 3 | 2.30 | 2.30 | 60.90 |
| | 6 Gelderland | 12 | 9.40 | 9.40 | 70.30 |
| | 7 Utrecht | 8 | 6.30 | 6.30 | 76.60 |
| | 8 Noord-Holland | 14 | 10.90 | 10.90 | 87.50 |
| | 9 Zuid-Holland | 6 | 4.70 | 4.70 | 92.20 |
| | 11 Brabant | 8 | 6.30 | 6.30 | 98.40 |
| | 12 Limburg | 2 | 1.60 | 1.60 | 100 |
| Education | 1 vmbo | 4 | 3.10 | 3.10 | 3.10 |
| | 2 havo | 20 | 15.60 | 15.60 | 18.80 |
| | 3 vwo | 12 | 9.40 | 9.40 | 28.10 |
| | 4 mbo | 13 | 10.20 | 10.20 | 38.30 |
| | 5 hbo | 46 | 35.90 | 35.90 | 74.20 |
| | 6 wo | 33 | 25.80 | 25.80 | 100 |
| Age | 17 | 4 | 3.10 | 3.10 | 3.10 |
| | 18 | 7 | 5.50 | 5.50 | 8.60 |
| | 19 | 8 | 6.30 | 6.30 | 14.80 |
| | 20 | 13 | 10.20 | 10.20 | 25 |
| | 21 | 32 | 25 | 25 | 50 |
| | 22 | 19 | 14.80 | 14.80 | 64.80 |
| | 23 | 21 | 16.40 | 16.40 | 81.30 |
| | 24 | 24 | 18.80 | 18.80 | 100 |
| Work- / Study Situation | 1 Student | 109 | 69 | 69 | 69 |
| | 2 Parttime Work | 31 | 19.60 | 19.60 | 88.60 |
| | 3 Fulltime Work | 11 | 7 | 7 | 95.60 |
| | 4 Selfemployed | 3 | 1.90 | 1.90 | 97.50 |
| | 5 Unemployed | 2 | 1.30 | 1.30 | 98.80 |
| | 6 Other | 2 | 1.30 | 1.30 | 100.10 |

### 3.4. Measurements

#### 3.4.1. Online social identity

Online social identity (dependent variable) was measured through sixteen items based upon the Collective Self-Esteem Scale developed by Luhtanen and Crocker (1992). The Collective Self-Esteem Scale consists of four subscales over which the sixteen items are divided in groups of four (Luhtanen and Crocker, 1992). The first subscale is 'Importance to Identity Online', which presents the importance of social groups online for an individual's social identity online (Luhtanen and Crocker, 1992; Rahimi & Strube, 2007). The second subscale is 'Private Collective Self-Esteem Online', this represents the way individuals view their online social groups (Luhtanen and Crocker, 1992; Rahimi & Strube, 2007). The third subscale is 'Membership Esteem Online, which presents an individual's perspective of what kind of member this individual is in their online social groups (Luhtanen and Crocker, 1992; Rahimi & Strube, 2007). The fourth subscale is 'Public Collective Self-Esteem Online', this represents the individual's beliefs of how their online social groups are viewed by others online (Luhtanen and Crocker, 1992; Rahimi & Strube, 2007).

All items are answered on a 7-point Likert scale ranging from strongly disagree (1) to strongly agree (7). Example statements are "My online social groups are an important reflection of who I am" for 'Importance to Identity Online', "I am glad to be a member of my online social groups" for 'Private Collective Self-Esteem Online', "I am a worthy member of my online social groups" for 'Membership Esteem Online', and "My online social groups are seen as worthy by others online" for 'Public Collective Self-Esteem Online'.

A previous study has shown that the internal reliability of the four subscales is good with a Cronbach's alpha of 0.80 for Importance to Identity, 0.90 for Private Collective Self-Esteem, 0.80 for Membership Esteem, 0.77 for Public Collective Self-Esteem, and 0.88 for the overall Collective Self-Esteem Scale (Luhtanen & Crocker, 1992). For the dependent variable 'online social identity' the overall mean sum scale was calculated over 14 items, because two items "Overall, my online social groups are considered good by others online" and "Most people consider my online social groups, on average, to be more effective than other online social groups" were filtered out, this will be further elaborated on in the results section. Moreover, the mean sum scale was calculated over each subscale.

#### 3.4.2. Social connectedness

Online social connectedness (independent variable) was measured through eight items based upon the Social Connectedness Scale proposed by Lee and Robbins (1995). This scale is

answered on a 7-point Likert scale ranging from strongly disagree (1) to strongly agree (7). An example item is "I feel connected to the world around me on Instagram". A previous study has shown that the internal reliability of the Social Connectedness Scale was good with a Cronbach's alpha of 0.91 (Lee & Robbins, 1995). For the independent variable 'social connectedness' the mean sum scale was calculated over the eight items.

### 3.4.3. Followers

The independent variable 'followers' was measured in the online questionnaire with the number of followers. Followers are the number of followers an Instagram user has on Instagram. The respondents of the questionnaire were asked about their number of followers on Instagram with the question "How many followers do you have on Instagram?". This was an open question where the respondents could fill in a number.

### 3.4.4. Likes

The independent variable 'likes' was measured through the online questionnaire with the number of likes. The respondents of the questionnaire were asked about their average number of likes that they received on their last three posts on Instagram. This was asked with the question "What is the average number of likes that you received on you last three posts on Instagram?". This was an open question where the respondents could fill in a number.

### 3.4.5. Activity

The independent variable 'activity' was measured through seven items based on the Scale of Active Social Network Use of Shim et al. (2008). This scale is answered on a 5-point Likert scale ranging from strongly disagree (1) to strongly agree (5). An example item is "I post and upload videos and photos on Instagram". A previous study has shown that the internal reliability of the Active Social Network Use Scale was good with a Cronbach's alpha of 0.70 (Shim et al., 2008). For the independent variable 'activity' the mean sum scale was calculated over five items, because two items 'I meet new people on Instagram' and 'I spent time browsing social network content created by others on Instagram' were filtered out (see results section).

### 3.5. Data Analysis Strategy

For the descriptive statistics, the mean score and the standard deviation of each research construct were calculated. Thereafter, the validity and reliability of the collected data was

checked. Furthermore, the collected data was analyzed using a correlation analysis and four multiple regression analyses.

### 3.5.1. Validity

To test the validity a factor analysis was conducted with a Varimax with Kaiser Normalization Rotation method. To check whether the factor analysis could be performed, the KMO test (Kaiser-Meyer-Olkin test) was conducted to test how suitable the data was for the analysis. The KMO score is a number between 0 and 1 and is good when higher than 0.50, so when the KMO test has a final good score the factor analysis can be conducted in a reliable and valid manner (Ather & Balasundaram, 2009). The factor analysis tests if each factor measures its constructs. The factor loadings of the research constructs need to be higher than 0.50 to be valid (Ather & Balasundaram, 2009).

### 3.5.2. Reliability

To fulfill the reliability requirements a Cronbach's alpha was calculated per research construct. The Cronbach's alphas of the research constructs need to be higher than 0.7 to be sufficient (Verhoeven, 2014, p. 300).

### 3.5.3. Correlation analysis

The correlation between the variables was checked, to test if there were strong or weak relationships between the variables without taking other variables into consideration. The correlation between the variables is indicated with the correlation coefficient. Furthermore, the correlation analysis was used to check for multicollinearity issues, for this, the VIF values (Variance Inflation Factor) were used. VIF values are used to measure the impact of the correlations between the independent and dependent variables (Curto & Pinto, 2010).

### 3.5.4. Regression analysis

In this study multiple regression analyses were preformed to measure the relationships between the dependent variable online social identity, and the independent variables social connectedness, followers, likes, and activity, with gender as moderator. The first multiple regression analysis measured the relationships between 'Importance to Identity Online' (subscale 1 of online social identity) and the independent variables, with gender as moderator. The second multiple regression analysis measured the relationships between 'Private Collective

Self-Esteem Online' (subscale 2 of online social identity) and the independent variables, with gender as moderator. The third multiple regression analysis measured the relationships between 'Membership Esteem Online' (subscale 3 of online social identity) and the independent variables, with gender as moderator. The last multiple regression analysis measured the relationships between 'Public Collective Self-Esteem Online' (subscale 4 of online social identity) and the independent variables, with gender as moderator. In all regression analyses the moderator variable 'gender' was tested through interaction effects, which are effects that arise when the relationship between two variables is associated with other variables (Disatnik & Sivan, 2016). For the interaction effects, interaction terms between the moderator variable and the independent variables social connectedness, followers, likes, and activity were used. The regression analysis was used to test the hypotheses of this study.

# 4. Results

## 4.1. Descriptive Statistics

In this study an online questionnaire was conducted to study which factors influence the online social identity of young people through Instagram. The data collected from this questionnaire have been analyzed and the results will be discussed in this section. Firstly, for the descriptive statistics, the means and standard deviations, of the research constructs online social identity overall ($M = 4.17$, $SD = 0.89$), importance to identity online ($M = 3.64$, $SD = 1.27$), private collective self-esteem online ($M = 4.71$, $SD = 0.91$), membership esteem online ($M = 3.90$, $SD = 1.32$), public collective self-esteem online ($M = 4.66$, $SD = 1.00$), social connectedness on Instagram ($M = 3.79$, $SD = 0.86$), followers on Instagram ($M = 711$, $SD = 1755$), likes on Instagram ($M = 165$, $SD = 166$), and activity on Instagram ($M = 3.01$, $SD = 0.86$) were calculated (Table 2). The means indicate what was answered, on average, by the respondents in the online questionnaire and the standard deviations indicate the degree of variation around the mean.

**Table 2**

*Means and Standard Deviations of Research Constructs*

| Construct | N | Mean | Std. Dev. | Range |
|---|---|---|---|---|
| Importance to Identity Online | 128 | 3.64 | 1.27 | 1 - 7 |
| Private Collective Self-Esteem Online | 128 | 4.71 | 0.91 | 1 - 7 |
| Membership Esteem Online | 128 | 3.90 | 1.32 | 1 - 7 |
| Public Collective Self-Esteem Online | 128 | 4.66 | 1.00 | 1 - 7 |
| Online Social Identity Overall | 128 | 4.17 | 0.89 | 1 - 7 |
| Social Connectedness on Instagram | 128 | 3.79 | 0.86 | 1 - 7 |
| Followers on Instagram | 128 | 710.59 | 1754.65 | 98 - 18700 |
| Likes on Instagram | 128 | 165.74 | 165.74 | 0 - 1400 |
| Activity on Instagram | 128 | 3.01 | 0.86 | 1 - 5 |

## 4.2. Validity

The validity of the data was tested with the factor analysis. In the factor analysis three scales were included, the 'Collective Self-Esteem Scale' for online social identity, the 'Social Connectedness Scale' for social connectedness on Instagram, and the 'Scale of Active Social Network Use' for activity on Instagram. To test if the factor analysis could be performed the KMO (Kaiser-Meyer-Olkin) test was conducted. The KMO score is 0.86 (presented in Appendix F), this number is between 0 and 1, and higher than 0.50, this means that the KMO score is good and that the factor analysis could be performed.

For the factor analysis the Varimax with Kaiser Normalization Rotation method was used. The factor loadings are presented in Appendix F, the factor loadings of social connectedness were all higher than 0.50, so valid. The factor loadings of subscales one 'Importance to Identity Online', two 'Private Collective Self-Esteem Online', and three 'Membership Esteem Online' of online social identity were all higher than 0.50, so valid. However, the items "13. Overall, my online social groups are considered good by others online" and "14. Most people consider my online social groups, on average, to be more effective than other online social groups" of subscale four 'Public Collective Self-Esteem Online' did not load with the other items, so the two items were removed. Furthermore, one factor loading of activity was not valid because the loading was lower than 0.50 with a loading of 0.48, therefore the item "5. I meet new people on Instagram" was removed. Additionally, the item "7. I spent time browsing social network content created by others on Instagram" did not load with the other factors, so this item was moreover removed. The other five items were valid with factor loadings higher than 0.50.

## 4.3. Reliability

The requirements for reliability must be met. The requirement for the reliability is that the Cronbach's Alpha of the research constructs must be higher than 0.70 to be sufficient. The Cronbach's Alpha's of the scales and subscales are presented in Table 3. All Cronbach's alphas are higher than 0.70 and thus the reliability of the scales and subscales is satisfactory. This moreover means that the subscales importance to identity online, private collective self-esteem online, membership esteem online, and public collective self-esteem online of online social identity can be used for the correlation and regression analysis.

**Table 3**

*Cronbach's Alpha*

| Construct | No. Items | Cronbach's Alpha |
|---|---|---|
| Importance to Identity Online | 4 | 0.86 |
| Private Collective Self-Esteem Online | 4 | 0.78 |
| Membership Esteem Online | 4 | 0.90 |
| Public Collective Self-Esteem Online | 2 | 0.82 |
| Online Social Identity Overall | 14 | 0.90 |
| Social Connectedness on Instagram | 8 | 0.87 |
| Activity on Instagram | 5 | 0.84 |

## 4.4. Correlation Analysis

The correlation analysis has been performed to test the correlations between the variables online social identity (consisting of the subscales; importance to identity, private collective self-esteem, membership esteem, and public collective self-esteem), social connectedness, followers, likes, and activity. The correlation analysis is presented in Table 4. The correlation analysis was moreover conducted to check if there were multicollinearity issues, for this the VIF values are checked (Table 5, Table 6, Table 7 & Table 8). The VIF values are 1.42 for social connectedness, 2.80 for followers, 2.96 for likes, and 1.42 for activity. The VIF values are low, so there are no multicollinearity issues (Curto & Pinto, 2010).

The dependent variable online social identity, consisting of importance to identity online, private collective self-esteem online, membership esteem online, and public collective self-esteem online, correlated positively with the independent variable social connectedness, indicating that participants who reported high levels of online social identity moreover reported high levels of social connectedness. In addition to social connectedness, the independent variable activity also has a positive correlation with importance to identity online, private collective self-esteem online, membership esteem online, and public collective self-esteem online. This implies that participants who reported high levels of online social identity furthermore reported high levels of activity on Instagram. The two independent variables followers and likes do not correlate with the importance to identity online, private collective self-esteem online, membership esteem online, and public collective self-esteem online. However, they highly positively correlate to each other, which indicates that the more likes participants reported the more followers the participants have reported in the online questionnaire. In addition, positive correlations were found between the independent variables' social connectedness, activity, and likes. This indicates that participants who reported high levels of social connectedness on Instagram, moreover, reported high levels of activity on Instagram, and furthermore reported a high number of likes received from others on Instagram.

**Table 4**

*Correlation Analysis*

| | Importance to Identity Online | Private Collective Self-Esteem Online | Membership Esteem Online | Public Collective Self-Esteem Online | Social Connectedness on Instagram | Followers on Instagram | Likes on Instagram | Activity On Instagram |
|---|---|---|---|---|---|---|---|---|
| Importance to Identity Online | 1.00 | | | | | | | |
| Private Collective Self-Esteem Online | .43** | 1.00 | | | | | | |
| Membership Esteem Online | .47** | .56** | 1.00 | | | | | |
| Public Collective Self-Esteem Online | .35** | .52** | .49** | 1.00 | | | | |
| Social Connectedness on Instagram | .55** | .39** | .52** | .49** | 1.00 | | | |
| Followers on Instagram | .01 | -.03 | .02 | -.05 | .05 | 1.00 | | |
| Likes on Instagram | .06 | -.00 | .14 | .12 | .18* | .78** | 1.00 | |
| Activity on Instagram | .41** | .26** | .60** | .32** | .52** | .16 | .22* | 1.00 |

** $p < 0.01$
* $p < 0.05$

**4.5. Regression Analysis**

In this study four multiple regression analyses were performed. The first analysis presents 'importance to identity online' of online social identity. The second analysis presents 'private collective self-esteem online' of online social identity. The third analysis presents 'membership esteem online' of online social identity. The fourth analysis presents 'public collective self-esteem online' of online social identity. In each regression analysis two models are presented, model one presents the original independent variables (social connectedness, followers, likes, activity, and gender), and in model two the interaction terms (gender x social connectedness, gender x followers, gender x likes, and gender x activity) are added to investigate the interaction effects of the moderator gender on the variables.

*4.5.1. Importance to Identity Online*

With the first regression analysis the relationship between importance to identity online (subscale one of online social identity), and the independent variables social connectedness, followers, likes, and activity was tested, with gender as moderator. Table 5 firstly presents the model statics of model one with an adjusted $R^2$ of 0.31 ($F = 12.39$, $p < .001$). Secondly, the model statistics of model two with a $R^2$ of 0.31 ($F = 7.214$, $p < .001$) are presented. So, the model statistics showed that the adjusted $R^2$ did not change, this indicates that there is no interaction effect of the moderator, gender, on neither the importance to identity online nor the independent variables. This means that model one and model two both explain 31% of the variance in 'importance to identity online', with a significant influence of the variable social connectedness, in both model one ($B = .58$, $p < .001$) and model two ($B = .57$, $p < .001$). However, in model two the independent variable activity ($B = .29$, $p = 0.33$) also has a significant influence on the importance to identity online. This means that the independent variable social connectedness has a positive relationship with importance to identity online of young people. Additionally, the independent variable activity has a positive relationship with importance to identity online of young people when the interaction terms were added. The full regression analysis output of importance to identity is presented in Appendix G.

**Table 5**

*Regression Analysis Importance to Identity Online*

Coefficients

| Model | | Unstandardized Coefficients | | Standardized Coefficients | | | Collinearity Statistics | |
|---|---|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | t | Sig. | Tolerance | VIF |
| 1 | (Constant) | 1.14 | 0.48 | | 2.37 | 0.020 | | |
| | Social Connectedness on Instagram | 0.58 | 0.11 | 0.47 | 5.29 | <.001 | 0.70 | 1.42 |
| | Followers on Instagram | -7.67E-6 | 0.00 | -0.02 | -0.20 | 0.844 | 0.36 | 2.80 |
| | Likes on Instagram | 0.00 | 0.00 | -0.02 | -0.16 | 0.877 | 0.34 | 2.96 |
| | Activity on Instagram | 0.25 | 0.13 | 0.17 | 1.91 | 0.059 | 0.70 | 1.42 |
| | Gender | -0.31 | 0.21 | -0.12 | -1.48 | 0.141 | 0.91 | 1.10 |
| 2 | (Constant) | 1.29 | 0.56 | | 2.31 | 0.023 | | |
| | Social Connectedness on Instagram | 0.57 | 0.11 | 0.46 | 5.08 | <.001 | 0.68 | 1.48 |
| | Followers on Instagram | 0.00 | 0.00 | -0.25 | -0.82 | 0.416 | 0.06 | 16.83 |
| | Likes on Instagram | 0.00 | 0.00 | -0.02 | -0.13 | 0.899 | 0.24 | 4.09 |
| | Activity on Instagram | 0.29 | 0.13 | 0.19 | 2.15 | 0.033 | 0.68 | 1.48 |
| | Gender | -0.45 | 0.29 | -0.17 | -1.55 | 0.125 | 0.48 | 2.09 |
| | Gender_x_Social_Connectedness | -0.00 | 0.14 | -0.00 | -0.01 | 0.993 | 0.64 | 1.57 |
| | Gender_x_Followers | -0.70 | 0.72 | -0.35 | -0.97 | 0.335 | 0.04 | 24.09 |
| | Gender_x_Likes | 0.20 | 0.21 | 0.24 | 0.96 | 0.338 | 0.09 | 11.05 |
| | Gender_x_Activity | 0.16 | 0.13 | 0.12 | 1.24 | 0.218 | 0.61 | 1.65 |

a. Dependent Variable: New-Identity Importance to Identity Online
Model 1: F 12.387. p < .001. Adj. $R^2$ .31.
Model 2: F 7.214. p < .001. Adj. $R^2$ .31.

### 4.5.2. Private Collective Self-Esteem Online

With the second regression analysis the relationship between the private collective self-esteem online (subscale two of online social identity), and the independent variables social connectedness, followers, likes, and activity was tested, with gender as moderator. Table 6 first presents the model statistics of model one with an adjusted $R^2$ of 0.14 ($F = 5.05$, $p < .001$). This means that model one explains 14% of the variance in 'private collective self-esteem online', with a significant influence of the variable social connectedness ($B = .32$, $p < .001$). The model statistics furthermore indicated that the adjusted $R^2$ shifted from 0.14 ($F = 5.10$, $p < .001$) in model one to 0.13 ($F = 3.04$, $p = .003$) in model two. This means that the variance in private collective self-esteem has decreased from 14% to 13% by adding the interaction terms. This moreover indicates that there is no interaction effect of the moderator gender, on neither the private collective self-esteem online nor the independent variables. Model two thus explains 13% of the variance in the private collective self-esteem online, with moreover a significant influence of the independent variable social connectedness ($B = .30$, $p = .001$). This indicates that the independent variable social connectedness has a positive relationship with the private collective self-esteem online of young people. The full regression analysis output of private collective self-esteem is presented in Appendix H.

**Table 6**

*Regression Analysis Private Collective Self-Esteem Online*

| | | Unstandardized Coefficients | | Standardized Coefficients | | | Collinearity Statistics | |
|---|---|---|---|---|---|---|---|---|
| Model | | B | Std. Error | Beta | t | Sig. | Tolerance | VIF |
| 1 | (Constant) | 3.04 | 0.39 | | 7.87 | < .001 | | |
| | Social Connectedness on Instagram | 0.32 | 0.09 | 0.36 | 3.67 | < .001 | 0.70 | 1.42 |
| | Followers on Instagram | 8.87E-6 | 0.00 | 0.06 | 0.40 | 0.690 | 0.36 | 2.80 |
| | Likes on Instagram | -0.00 | 0.00 | -0.15 | -1.03 | 0.307 | 0.34 | 2.96 |
| | Activity on Instagram | 0.11 | 0.11 | 0.10 | 1.01 | 0.316 | 0.70 | 1.42 |
| | Gender | 0.20 | 0.17 | 0.10 | 1.17 | 0.244 | 0.91 | 1.10 |
| 2 | (Constant) | 3.08 | 0.45 | | 6.83 | < .001 | | |
| | Social Connectedness on Instagram | 0.30 | 0.09 | 0.34 | 3.37 | 0.001 | 0.68 | 1.48 |
| | Followers on Instagram | 0.00 | 0.00 | -0.20 | -0.58 | 0.564 | 0.06 | 16.83 |
| | Likes on Instagram | 0.00 | 0.00 | -0.02 | -0.11 | 0.912 | 0.24 | 4.09 |
| | Activity on Instagram | 0.12 | 0.11 | 0.11 | 1.13 | 0.262 | 0.68 | 1.48 |
| | Gender | 0.16 | 0.23 | 0.08 | 0.67 | 0.507 | 0.48 | 2.09 |
| | Gender_x_Social_Connectedness | -0.09 | 0.11 | -0.09 | -0.86 | 0.391 | 0.64 | 1.57 |
| | Gender_x_Followers | -0.30 | 0.58 | -0.21 | -0.52 | 0.606 | 0.04 | 24.09 |
| | Gender_x_Likes | 0.00 | 0.17 | 0.01 | 0.02 | 0.981 | 0.09 | 11.05 |
| | Gender_x_Activity | 0.07 | 0.10 | 0.08 | 0.70 | 0.484 | 0.61 | 1.65 |

a. Dependent Variable: New-Private Private Collective Self-Esteem Online

Model 1: F 5.046. p < .001. Adj. $R^2$ .14.

Model 2: F 3.038. p = .003. Adj. $R^2$ .13.

### 4.5.3. *Membership Esteem Online*

With the third regression analysis the relationship between membership esteem online (subscale three of online social identity), and the independent variables social connectedness, followers, likes, and activity was tested, with gender as moderator. Table 7 first presents the model statistics of model one with an adjusted $R^2$ of 0.42 ($F = 19.55, p < .001$). This means that model one explains 42% of the variance in 'membership esteem online', with significant influences of the variable's social connectedness ($B = .35, p = .001$), activity ($B = .72, p < .001$) and gender ($B = .42, p = .040$). In addition, the model statistics showed that the adjusted $R^2$ shifted from 0.41 ($F = 19.55, p < .001$) in model one to 0.43 ($F = 11.58, p < .001$) in model two. This indicates that the variance in membership esteem online has increased from 42% to 43% when the interaction terms were added. However, no significant effects were found of the interaction terms on the membership esteem online. Model two thus explains 43% of the variance in membership esteem online, with moreover significant influences of the independent variable's social connectedness ($B = .34, p = .002$), activity ($B = .74, p < .001$), and gender ($B = .56, p = .045$). This indicates that the independent variables social connectedness and activity have a positive relationship with the membership esteem online of young people. Furthermore, a direct relationship between gender and the membership esteem online was found, however this is not an interaction effect. The full regression analysis output of membership esteem is presented in Appendix I.

**Table 7**

*Regression Analysis Membership Esteem Online*

| Coefficients | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | Unstandardized Coefficients | | Standardized Coefficients | | | Collinearity Statistics | |
| Model | | B | Std. Error | Beta | t | Sig. | Tolerance | VIF |
| 1 | (Constant) | -0.12 | 0.46 | | -0.26 | 0.793 | | |
| | Social Connectedness on Instagram | 0.35 | 0.10 | 0.28 | 3.42 | 0.001 | 0.70 | 1.42 |
| | Followers on Instagram | -7.11E-6 | 0.00 | -0.09 | -0.79 | 0.434 | 0.36 | 2.80 |
| | Likes on Instagram | 0.00 | 0.00 | 0.03 | 0.25 | 0.803 | 0.34 | 2.96 |
| | Activity on Instagram | 0.72 | 0.12 | 0.47 | 5.82 | < .001 | 0.70 | 1.42 |
| | Gender | 0.42 | 0.20 | 0.15 | 2.07 | 0.040 | 0.91 | 1.10 |
| 2 | (Constant) | -0.29 | 0.53 | | -0.56 | 0.579 | | |
| | Social Connectedness on Instagram | 0.34 | 0.11 | 0.26 | 3.21 | 0.002 | 0.68 | 1.48 |
| | Followers on Instagram | 0.00 | 0.00 | 0.17 | 0.60 | 0.552 | 0.06 | 16.83 |
| | Likes on Instagram | 0.00 | 0.00 | -0.05 | -0.37 | 0.709 | 0.24 | 4.09 |
| | Activity on Instagram | 0.74 | 0.13 | 0.48 | 5.90 | < .001 | 0.68 | 1.48 |
| | Gender | 0.56 | 0.27 | 0.20 | 2.03 | 0.045 | 0.48 | 2.09 |
| | Gender_x_Social_Connectedness | -0.17 | 0.13 | -0.12 | -1.37 | 0.174 | 0.64 | 1.57 |
| | Gender_x_Followers | 0.55 | 0.68 | 0.27 | 0.81 | 0.421 | 0.04 | 24.09 |
| | Gender_x_Likes | -0.08 | 0.20 | -0.09 | -0.38 | 0.706 | 0.09 | 11.05 |
| | Gender_x_Activity | 0.16 | 0.12 | 0.12 | 1.34 | 0.183 | 0.61 | 1.65 |

a. Dependent Variable: New-Membership Membership Esteem Online

Model 1: F 19.551. p < .001. Adj. $R^2$ .42.

Model 2: F 11.581. p < .001. Adj. $R^2$ .43.

### 4.5.4. Public Collective Self-Esteem Online

With the fourth regression analysis the relationship between public collective self-esteem online (subscale four of online social identity), and the independent variables social connectedness, followers, likes, and activity was tested, with gender as moderator. Table 8 first presents the model statistics of model one with an adjusted $R^2$ of 0.24 ($F = 9.00$, $p < .001$). This means that model one explains 24% of the variance in 'public collective self-esteem online', with significant influences of the variable's social connectedness ($B = .39$, $p < .001$) and followers ($B = .00$, $p = .038$). Furthermore, the model statistics indicated that the adjusted $R^2$ did not change from model one to model two. This indicates that there is no interaction effect of the moderator, gender, on neither the public collective self-esteem nor the independent variables. Model two moreover has an $R^2$ of 0.24 ($F = 5.43$, $p < .001$), this means that model two explains 24% of the variance in public collective self-esteem online. However, in model two, there is only a significant influence of the independent variable social connectedness ($B = .38$, $p < .001$). Thus, the independent variables social connectedness and followers both have a positive relationship with the public collective self-esteem online of young people when no interaction terms were added. So, only social connectedness has a positive relationship with the public collective self-esteem online when the interaction terms were added. The full regression analysis output of public collective self-esteem is presented in Appendix J. The findings are moreover summarized in figure 2.

**Table 8**

*Regression Analysis Public Collective Self-Esteem Online*

| | Coefficients | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | Unstandardized Coefficients | | Standardized Coefficients | | | Collinearity Statistics | |
| Model | | B | Std. Error | Beta | t | Sig. | Tolerance | VIF |
| 1 | (Constant) | 2.72 | 0.40 | | 6.88 | < .001 | | |
| | Social Connectedness on Instagram | 0.39 | 0.09 | 0.41 | 4.39 | < .001 | 0.70 | 1.42 |
| | Followers on Instagram | 0.00 | 0.00 | -0.27 | -2.09 | 0.038 | 0.36 | 2.80 |
| | Likes on Instagram | 0.00 | 0.00 | 0.24 | 1.78 | 0.078 | 0.34 | 2.96 |
| | Activity on Instagram | 0.11 | 0.11 | 0.10 | 1.05 | 0.298 | 0.70 | 1.42 |
| | Gender | -0.01 | 0.17 | -0.00 | -0.04 | 0.967 | 0.91 | 1.10 |
| 2 | (Constant) | 2.63 | 0.46 | | 5.72 | < .001 | | |
| | Social Connectedness on Instagram | 0.38 | 0.09 | 0.40 | 4.18 | < .001 | 0.68 | 1.48 |
| | Followers on Instagram | -7.17E-6 | 0.00 | -0.15 | -0.48 | 0.631 | 0.06 | 1.683 |
| | Likes on Instagram | 0.00 | 0.00 | 0.17 | 1.10 | 0.272 | 0.24 | 4.09 |
| | Activity on Instagram | 0.14 | 0.11 | 0.12 | 1.27 | 0.206 | 0.68 | 1.48 |
| | Gender | 0.05 | 0.24 | 0.03 | 0.22 | 0.824 | 0.48 | 2.09 |
| | Gender_x_Social_Connectedness | -0.09 | 0.11 | -0.08 | -0.80 | 0.426 | 0.64 | 1.57 |
| | Gender_x_Followers | 0.13 | 0.59 | 0.08 | 0.22 | 0.828 | 0.04 | 24.09 |
| | Gender_x_Likes | 0.00 | 0.17 | 0.01 | 0.02 | 0.981 | 0.09 | 11.05 |
| | Gender_x_Activity | 0.16 | 0.10 | 0.16 | 157 | 0.119 | 0.61 | 1.65 |

a. Dependent Variable: New-Public Public Collective Self-Esteem Online

Model 1: F 8.997. p < .001. Adj. $R^2$ .24.

Model 2: F 5.433. p < .001. Adj. $R^2$ .24.

**Figure 2**

*Conceptual Model*
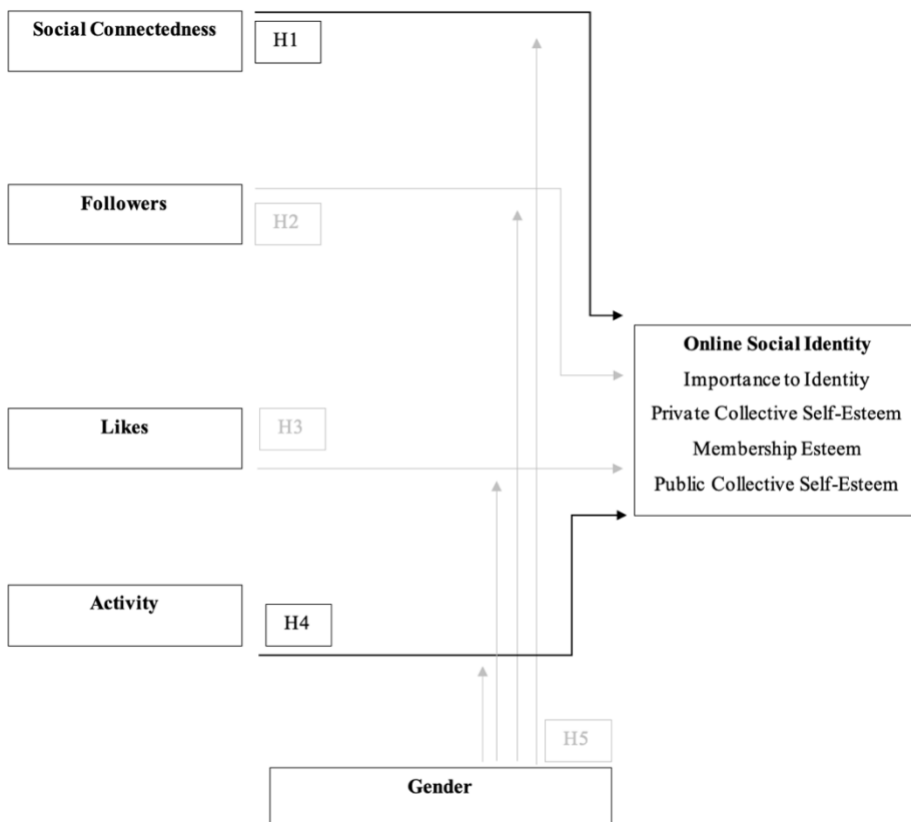


*Note.* Black lines represent relation, grey lines represent no relation.

# 5. Discussion

The aim of this study was to investigate to what extend social connectedness, followers, likes, and activity on Instagram influences the online social identity of young people. Thereby, five hypotheses were developed and tested. This chapter will further elaborate on the results of this study, and therefore will explain whether this aim is achieved. First, the main findings will be discussed. Furthermore, the practical and theoretical implications of this study are explained. Thereafter, the limitations of this study are discussed, with recommendations for future research. Lastly, the conclusion is given of this study.

## 5.1. Main Findings

### 5.1.1. Social Connectedness and Activity

The variable with the most positive and significant influence on the online social identity of young people in this study, is social connectedness. This indicates that being socially connected on Instagram with other users that share similar characteristics and interests positively influences the online social identity of that individual (H1). This means that being socially connected with others on Instagram is important for being a part of a social group online, for an individual's positive view of their social group online, for the feeling of being a good member of the social group online, and for an individual's positive beliefs of how their social group is seen by others, which ensures a positive online social identity. This is in line with previous research of Lee and Robbins (1995), Lee and Robbins (1995) explained that the social connectedness with others, and thereby belonging to a social group and feeling supported by this group, is the most important aspect in the development of the social identity, in the offline world. Furthermore, research of Barker (2012), Lee et al. (2015), and McKay et al. (2005) showed that the social connectedness is moreover important in the online world for young people, for their social identity online. The previous studies namely found that young people also want to socially identify with others online to feel a part of a social group online (Barker, 2012; Lee et al., 2015; McKay et al., 2005). The social connectedness on Instagram thus contributes to the online social identity of young people.

In addition to social connectedness, the activeness of the Instagram user on Instagram moreover has a positive influence on the online social identity of young people (H4). The correlation analysis found positive relations between activity and all four aspects of the online social identity in this study. Moreover, the regression analysis indicated positive relations between activity and importance to identity online, and activity and the membership esteem

online. However, the relation between activity and importance to identity was only indicated when gender was added as moderator, but no significant effect can be indicated of the moderator in the analysis. Therefore, is the hypothesis partially supported (H4). The influence of the activeness of the Instagram user on Instagram on the online social identity of young people can be explained by previous research of Frunzaru and Garbasevschi (2016), and Pagani et al. (2011). Both studies indicated that the more active a person is on social media, the larger the chance is to connect with others online, and the more aware a person would be of their identity online (Frunzaru & Garbasevschi, 2016; Pagani et al., 2011). Moreover, the more active a person is on social media, the more likely this person is to develop an identity online to their liking by posting content on social media that fits their identity online (Frunzaru and Garbasevschi, 2016; Pagani et al., 2011; Seibel, 2019). It is therefore assumed that an active user of Instagram, is more aware of their social identity online, and can create a social identity online to their liking that fulfills their need for belongingness to a social group online.

Additionally, relations were found between the variables 'social connectedness', 'likes', and 'activity'. This indicates that when an Instagram user is active on Instagram, this user is moreover socially connected with others on Instagram, and that this user receives a high number of likes on posts on Instagram.

### 5.1.2. Followers & Likes

In this study it was expected that a high number of followers and likes that an Instagram user receives on Instagram, would positively influence the online social identity of young people (H2 & 3). Firstly, the analysis indicated that 'likes' has no influence on the online social identity. Secondly, the correlation analysis indicated that 'followers' has no relation with the online social identity. Furthermore, the regression analysis indicated that 'followers' only has a small influence on the public collective self-esteem online, moreover when the moderator variable, gender, is not included. Therefore, it cannot be stated that 'followers' and 'likes' have a significant influence on the online social identity of young people.

A potential explanation for finding no significant relation between the online social identity and the variables followers and likes, could be that the one open question for followers, and the one open question for likes in the online questionnaire were not sufficient. This can be explained using previous research of Seibel (2019), she investigated the influence of factors and features of Instagram on the Insta-identity. However, Seibel made one variable of the factors act of liking, tagging, sharing, and following, because these factors are seen as a form of communication on Instagram (Seibel, 2019). With this variable, Seibel found a positive

relationship between the Insta-identity and the communication factors of Instagram (Seibel, 2019). Thus, if the variables followers and likes were combined into one variable, with the addition of tagging and sharing on Instagram, it could be that an influence would have been found on the online social identity of young people. Furthermore, research of Beyens et al. (2020) and Ross (2019) moreover, found influences of followers and likes on social media on the online identity. Beyens et al. (2020) and Ross (2019) examined the feelings that these variables entail for the social media users, for example that a high number of likes makes young people feel good about themselves. However, in this study only the number of followers and likes were asked of the respondents. Thus, if questions were added in the questionnaire about feelings regarding the number of followers and likes, it could be that an influence would have been found on the online social identity of young people.

Although, no significant influence was found of followers and likes on the online social identity of young people, a positive relation was found between followers and likes. This indicates that when an Instagram user has a high number of followers, this user also has a high number of likes on posts on Instagram.

### 5.1.3. Gender

Besides the independent variables, this study had a moderator variable, which was gender. It was expected that gender would moderate the influence of Instagram on the online social identity, in that the influence would be larger for young females than for young males (H5). This was because, previous studies of Burn et al. (2000), Frunzaru and Garbasevschi (2016), and Shumaker et al. (2017) found that females are more aware and interested in their social identity, offline and online, and focuses more on their content that they post on social media so that its fits their identity online. However, the analysis indicated that the variable gender has no significant interaction effect between the independent and dependent variables. The analysis only found a direct effect of gender on the membership esteem online, which indicates that being female or male influences the membership esteem online. However, the aim was to find interaction effects of gender, and not a direct effect. The potential indication that no significant interaction effect was found of gender, could be that most of the respondents were female, with 76.6%. So, there was no equality between females and males, this thus ensures that it cannot be stated whether the influence of Instagram on the online social identity is larger for females than for males. The results of the five hypotheses are summarized in Table 9.

**Table 9**

*Results of the Hypotheses*

| Hypothesis | Supported / Not Supported |
| --- | --- |
| H1: Being socially connected with other users that share similar characteristics and interests on Instagram positively influences the online social identity of young people. | Supported |
| H2: High number of followers on Instagram positively influences the online social identity of young people. | Not supported |
| H3: High number of likes on posts on Instagram positively influences the online social identity of young people. | Not supported |
| H4: Being active on Instagram positively influences the online social identity of young people. | Partially supported |
| H5: Gender will moderate the influence of Instagram on the online social identity of young people in that the influence of Instagram on the online social identity will be larger for young females than for young males. | Not Supported |

## 5.2. Implications

### 5.2.1. Practical Implications

This study can contribute to the awareness of young people that they, actively or passively, create an online social identity through Instagram. The results of this study show that being socially connected, and being active on Instagram, positively influences their online social identity. When young people are aware that they construct a social identity online, they can post own and creative content to build a social identity only to their liking. Moreover, this could ensure that young people connect with others that share similar characteristics and identities on Instagram. Young people namely want to have the feeling of belongingness to a social group, because according to Sharma and Sharma (2010) it positively influences their psychological individual and collective well-being (Barker, 2012; McKay et al., 2005; Sharma & Sharma, 2010). So, according to Sharma and Sharma (2010) a positive online social identity could contribute to the feeling of happiness, a good life, and satisfactory for young people.

Furthermore, the results of this study can be implemented by Instagram. The social media platform Instagram could respond to the construction of the online social identity of their younger users. For example, Instagram could develop social groups in which people can find

themselves and make connections with others that are like them or give the opportunity to its users to construct their own social groups online on Instagram. Instagram users can, for example, already construct a 'best friends' list to share their Instagram story with (Business Insider, 2020). This list consists of a handpicked group of followers, who are seen as best friends on Instagram (Business Insider, 2020). In the future, the 'best friend' feature may also work for the other posts on Instagram, that for example, Instagram users can choose to share a certain post only with a certain number of followers on Instagram.

### 5.2.2. *Theoretical Contribution*

The relationship between a specific social media platform and the online social identity of young people is still understudied. This study has contributed by investigating the relationship between the factor's social connectedness, followers, likes, and activity on Instagram and the social identity online of young people. This study has found relationships between social connectedness on Instagram and the online social identity, and activity on Instagram and the online social identity. This study thus ensures that more knowledge is gained on the relationship between Instagram and the online social identity of young people. But it is up to future research to investigate whether other factors of Instagram influence the online social identity, or whether other social media channels, such as Twitter or Snapchat, have an influence on the online social identity of young people.

### 5.3. Limitations & Recommendations for Future Research

In this section the limitations of this study will be discussed with recommendations for future research. The first limitation of this study is that the fourth subscale 'Public Collective Self-Esteem' of the 'Collective Self-Esteem Scale' of Luhtanen and Crocker (1992) was not fully valid in this study. The subscale consisted of four items, however two items had low factor loadings and did not load with the other items. These items were "Overall, my online social groups are considered good by others online" and "Most people consider my online social groups, on average, to be more effective than other online social groups". These items were removed and not further included in the data analysis. A potential reason why these items had a low factor loading and did not load with the other items could be that young people are unable to properly indicate whether their online social groups are seen as good and effective by others online. This indicates that whether social groups of a person are seen as good and effective by others online, does not measure the public collective self-esteem as part of this study, and as influence on the online social identity. However, the Cronbach's alpha of the public collective

self-esteem was still good after removing the two items, so the other items could still be included in the data analysis.

The second limitation of this study is that the Scale of Active Social Network Use of Shim et al (2008) was not fully valid in this study. The scale consisted of seven items to measure 'activity', however in the factor analysis one item had a factor loading below 0.50. This item was "I meet new people on Instagram" and was not further included in the data analysis. This indicates that meeting new people on Instagram does not measure 'activity' as part of this study, and as influence on the online social identity. In addition, the item "I spent time browsing social network content created by others on Instagram" did not load with the other factors and was not further included in the data analysis. A potential reason why this item did not load with the other items, could be that this item was more passive than the other items. This moreover means that browsing through content of others on Instagram does not measure 'activity' as part of this study and as influence on the online social identity. However, the Cronbach's alpha of 'activity' was still satisfactory after removing these items, so the remaining five items of 'activity' could be further included in the data analysis. The recommendation for both limitation one and two for future research is to use the Collective Self-Esteem Scale and the Scale of Active Social Network use again. But to test the scales first in a more extensive pre-test to get to know the respondents better, so that the scales can be adjusted accordingly.

The aim of the online questionnaire of this study was to generate data from young people between the age of 16 to 24 years old, female and male, who live in the Netherlands, and who speak the Dutch language. However, the respondents consisted of young between the age of 17 to 24 years old. Moreover, the respondents were mostly female (76.6%). Furthermore, more than half of the respondents live in the province Overijssel, with 56.3%. lastly, 69% of the respondents were students. Thus, the results of this study are mostly representative for Dutch females between the age of 17 to 24 years old, who live in Overijssel, and who are students. This signals that the results of this study are not fully representative of the Dutch population in the Netherlands of this age group, and therefore the results cannot be fully generalized for the whole Netherlands. It could be the case, for example, that social connectedness has a lower influence on the online social identity for males who live in the province Zeeland. A recommendation for future research is to conduct a questionnaire, both online and offline, to generate data from a more diverse group of people. The questionnaire, for example, can be conducted by standing in a big city center and by asking young people to fill in the questionnaire, this was not possible now because of COVID-19.

The last limitation of this study is that the time in which this study took place consisted of several months. In these months the participants were once asked to fill in an online questionnaire, so this was a snapshot in the life of the participants and their online social identity of that time. However, a social identity does not develop in a short amount of time, but over years (Strangor & Wallinga, 2014; Tajfel et al., 1978). As stated, the social identity of young people develops during adolescence, from the age of 10 to 24 years old (Crocetti & Rubini, 2020). A recommendation for future research is therefore to conduct a longitudinal study to investigate the development of the online social identity of young people. This is because a correlational study is non-experimental and does not explain causal relations between variables. However, in a longitudinal study, participants can be observed multiple times over multiple years. For example, young people can be followed from the age of 12, when they are not present on social media yet, until the age of 20, when they have been active on social media for several years. By following young people over eight years, it could become clear how the social identity develops, both online and offline, and what the effect of social media is in these years.

## 5.4. Conclusion

Social media platforms have become an integral part in everyday life, especially among young people, with Instagram as one of the most popular in the Netherlands. The use of social media by young people brings new changes, such as the shift of the expression of the social identity offline to the expression of the social identity online. Therefore, the main research question of this study was *"To what extent do social connectedness, followers, likes, and activity on Instagram influence the online social identity of young people between the age of 16 to 24 years old in the Netherlands?"*. The factors that have been investigated in this study were social connectedness on Instagram, number of followers on Instagram, number of likes on Instagram, and activity on Instagram, with gender as moderator. This study found that being socially connected on Instagram with other users that share similar characteristics and interests positively influences their online social identity of young people. This is because, young people then socially identify with other Instagram users, they feel part of a social group online, and moreover feel support of their online social group for their social identity online. Furthermore, this study found that being active on Instagram moreover positively influences the online social identity of young people. This indicates that an active Instagram user, is more likely to be aware of their social identity online and can construct a social identity online to their liking. This study thus has indicated that a visually focused social media platform, such as Instagram, has an influence on the online social identity of young people between the age of 17 to 24 years old.

It is therefore important that young people are aware that they are developing a social identity online, because the online social identity that young will develop, with contribution of Instagram, will be the basis for all social interactions now and in the future online.

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# Appendices

## Appendix A. Pre-Test Questionnaire

…………………………………………………………………………………………………………

Bedankt voor je interesse in mijn onderzoek naar de online sociale identiteit van jongeren op Instagram.

Mijn naam is Milou Hakkenberg en ik ben een Masterstudent Communication Science van de Universiteit Twente en voer momenteel mijn Master Thesis uit.

In deze enquête worden diverse uitspraken gedaan over de online sociale identiteit op Instagram, en wordt er naar jouw mening gevraagd over deze uitspraken. Daarnaast worden er meerdere vragen gesteld over jouw demografische gegevens (Bv. Je leeftijd). De enquête duurt ongeveer 10 minuten. De gegevens die worden verzameld zijn anoniem en worden alleen voor dit onderzoek gebruikt. Deelname aan deze vragenlijst is vrijwillig en je kunt op elk moment stoppen. Heb je vragen of ben je geïnteresseerd in de resultaten, neem dan contact met mij op via m.f.hakkenberg@student.utwente.nl.

Als je aan dit onderzoek wilt deelnemen en minimaal 16 jaar bent, kun je hieronder 'Ja' antwoorden en doorgaan met de enquête. Als je niet wilt deelnemen kun je op 'Nee' klikken en verlaat je de enquête.

Bedankt voor je tijd, Milou Hakkenberg

o   Ja, Ik ga akkoord
o   Nee, Ik ga niet akkoord

…………………………………………………………………………………………………………

Allereerst een aantal vragen over jezelf.

Q1. Wat is je leeftijd? (Vul een getal in, bijvoorbeeld 18).

Q2. Heb je een Instagram account?

o   Ja

o   Nee

Q3. Maak je dagelijks gebruik van je Instagram account?

o   Ja

o   Nee

Q4. Wat is je geslacht?

o   Vrouw

o   Man

o   Anders, namelijk …

Q5. In welke provincie woon je?

o   Groningen

o   Friesland

o   Drenthe

o   Overijssel

o   Flevoland

o   Gelderland

o   Utrecht

o   Noord-Holland

o   Zuid-Holland

o   Zeeland

o   Brabant

o   Limburg

Q6. Wat is je hoogst behaalde opleidingsniveau?

o   Vmbo

o   Havo

o   Vwo

o   Mbo

o   Hbo

o   Wo

o   Anders, namelijk …

Q7. Wat is je huidige werk- / studiesituatie?

- o  Student
- o  Parttime werk
- o  Fulltime werk
- o  Zzp'er
- o  Werkloos
- o  Student & Parttime werk
- o  Anders, namelijk …

Q8. Hoeveel volgers heb je op Instagram? Dit getal kun je vinden onder 'volgers' op je eigen profiel. Geef aantal (bijvoorbeeld 100).

Q9. Wat is het gemiddelde aantal likes dat je hebt ontvangen op je laatste drie posts op Instagram? Dit getal kun je berekenen door het aantal likes van je laatste drie posts bij elkaar op te tellen en dit getal te delen door drie. Geef aantal (bijvoorbeeld 55).

Vragen deel 2: Sociale Connectie

Je krijgt nu diverse uitspraken te zien over je sociale connectie met anderen op het social media platform Instagram, geef aan in hoeverre je het hier mee eens bent of niet.

Q10. Ik voel mij verbonden met de wereld om mij heen op Instagram.

- o  Helemaal mee oneens
- o  Oneens
- o  Deels mee oneens
- o  Deels mee eens
- o  Mee eens
- o  Helemaal mee eens

Q11. Omringt door mensen die ik ken op Instagram, heb ik het gevoel dat ik thuishoor op Instagram.

- o  Helemaal mee oneens
- o  Oneens

- o Deels mee oneens
- o Deels mee eens
- o Mee eens
- o Helemaal mee eens

Q12. Ik voel mij hecht met andere mensen op Instagram.
- o Helemaal mee oneens
- o Oneens
- o Deels mee oneens
- o Deels mee eens
- o Mee eens
- o Helemaal mee eens

Q13. Ik heb een gevoel van saamhorigheid met mijn leeftijdsgenoten op Instagram.
- o Helemaal mee oneens
- o Oneens
- o Deels mee oneens
- o Deels mee eens
- o Mee eens
- o Helemaal mee eens

Q14. Ik voel mij verwant met andere mensen op Instagram.
- o Helemaal mee oneens
- o Oneens
- o Deels mee oneens
- o Deels mee eens
- o Mee eens
- o Helemaal mee eens

Q15. Ik heb een gevoel van verbondenheid met de samenleving op Instagram.
- o Helemaal mee oneens
- o Oneens
- o Deels mee oneens
- o Deels mee eens

o Mee eens

o Helemaal mee eens

Q16. Ik heb een gevoel van broeder-/ zusterschap met mijn vrienden/ vriendinnen op Instagram.

- o Helemaal mee oneens
- o Oneens
- o Deels mee oneens
- o Deels mee eens
- o Mee eens
- o Helemaal mee eens

Q17. Ik heb het gevoel dat ik deelneem aan groepen op Instagram.

- o Helemaal mee oneens
- o Oneens
- o Deels mee oneens
- o Deels mee eens
- o Mee eens
- o Helemaal mee eens

Vragen deel 3: Activiteit

…………………………………………………………………………………………………………………

Je krijgt nu diverse uitspraken te zien over je activiteit op het social media platform Instagram, geef aan in hoeverre je het hier mee eens bent of niet.

Q18. Ik besteed tijd aan het creëren van content op Instagram.

- o Helemaal mee oneens
- o Oneens
- o Noch eens noch oneens
- o Mee eens
- o Helemaal mee eens

Q19. Ik deel informatie op Instagram.

- o Helemaal mee oneens
- o Oneens
- o Noch eens noch oneens
- o Mee eens
- o Helemaal mee eens

Q20. Ik ontmoet nieuwe mensen op Instagram.

- o Helemaal mee oneens
- o Oneens
- o Noch eens noch oneens
- o Mee eens
- o Helemaal mee eens

Q21. Ik praat met andere mensen op Instagram.

- o Helemaal mee oneens
- o Oneens
- o Noch eens noch oneens
- o Mee eens
- o Helemaal mee eens

Q22. Ik praat over hobby's en persoonlijke interesses op Instagram.

- o Helemaal mee oneens
- o Oneens
- o Noch eens noch oneens
- o Mee eens
- o Helemaal mee eens

Q23. Ik post en upload video's en foto's op Instagram.

- o Helemaal mee oneens
- o Oneens
- o Noch eens noch oneens
- o Mee eens
- o Helemaal mee eens

Q24. Ik spendeer tijd aan het scrollen door content die door andere is gecreëerd op Instagram.

- o Helemaal mee oneens
- o Oneens
- o Noch eens noch oneens
- o Mee eens
- o Helemaal mee eens

<center>Vragen deel 4: Sociale Groepen</center>

Je krijgt nu diverse uitspraken te zien over online sociale groepen, geef aan in hoeverre je het hier mee eens bent of niet.

Q25. Mijn online sociale groepen dragen bij aan hoe ik over mijzelf denk.

- o Helemaal mee oneens
- o Oneens
- o Deels mee oneens
- o Noch eens noch oneens
- o Deels mee eens
- o Mee eens
- o Helemaal mee eens

Q26. Mijn online sociale groepen zijn een belangrijke weerspiegeling van wie ik ben.

- o Helemaal mee oneens
- o Oneens
- o Deels mee oneens
- o Noch eens noch oneens
- o Deels mee eens
- o Mee eens
- o Helemaal mee eens

Q27. Mijn online sociale groepen zijn belangrijk voor mijn gevoel over wat voor soort persoon ik ben.

- o Helemaal mee oneens

- o Oneens
- o Deels mee oneens
- o Noch eens noch oneens
- o Deels mee eens
- o Mee eens
- o Helemaal mee eens

Q28. Het behoren tot online sociale groepen is een belangrijk onderdeel van mijn zelfbeeld.
- o Helemaal mee oneens
- o Oneens
- o Deels mee oneens
- o Noch eens noch oneens
- o Deels mee eens
- o Mee eens
- o Helemaal mee eens

Q29. Ik voel geen spijt dat ik tot bepaalde online sociale groepen behoor.
- o Helemaal mee oneens
- o Oneens
- o Deels mee oneens
- o Noch eens noch oneens
- o Deels mee eens
- o Mee eens
- o Helemaal mee eens

Q30. Ik ben blij lid te zijn van de online sociale groepen waartoe ik behoor.
- o Helemaal mee oneens
- o Oneens
- o Deels mee oneens
- o Noch eens noch oneens
- o Deels mee eens
- o Mee eens
- o Helemaal mee eens

Q31. Het is de moeite waar om te behoren tot mijn online sociale groepen.

- o Helemaal mee oneens
- o Oneens
- o Deels mee oneens
- o Noch eens noch oneens
- o Deels mee eens
- o Mee eens
- o Helemaal mee eens

Q32. Ik voel mij goed over de online sociale groepen waartoe ik behoor.

- o Helemaal mee oneens
- o Oneens
- o Deels mee oneens
- o Noch eens noch oneens
- o Deels mee eens
- o Mee eens
- o Helemaal mee eens

Q33. Ik ben een waardig lid van de online sociale groepen waartoe ik behoor.

- o Helemaal mee oneens
- o Oneens
- o Deels mee oneens
- o Noch eens noch oneens
- o Deels mee eens
- o Mee eens
- o Helemaal mee eens

Q34. Ik heb het gevoel dat ik veel te bieden heb aan mijn online sociale groepen.

- o Helemaal mee oneens
- o Oneens
- o Deels mee oneens
- o Noch eens noch oneens
- o Deels mee eens
- o Mee eens

o Helemaal mee eens

Q35. Ik ben een deelnemer die samenwerkt in de online sociale groepen waartoe ik behoor.

o Helemaal mee oneens

o Oneens

o Deels mee oneens

o Noch eens noch oneens

o Deels mee eens

o Mee eens

o Helemaal mee eens

Q36. Ik heb het gevoel dat ik een nuttig lid ben van de online sociale groepen waartoe ik behoor.

o Helemaal mee oneens

o Oneens

o Deels mee oneens

o Noch eens noch oneens

o Deels mee eens

o Mee eens

o Helemaal mee eens

Q37. Door anderen worden mijn online sociale groepen als goed beschouwd online.

o Helemaal mee oneens

o Oneens

o Deels mee oneens

o Noch eens noch oneens

o Deels mee eens

o Mee eens

o Helemaal mee eens

Q38. De meeste mensen beschouwen mijn online sociale groepen, gemiddeld genomen, als effectiever dan andere online sociale groepen.

o Helemaal mee oneens

o Oneens

- o Deels mee oneens
- o Noch eens noch oneens
- o Deels mee eens
- o Mee eens
- o Helemaal mee eens

Q39. Mijn online sociale groepen worden gerespecteerd door anderen online.

- o Helemaal mee oneens
- o Oneens
- o Deels mee oneens
- o Noch eens noch oneens
- o Deels mee eens
- o Mee eens
- o Helemaal mee eens

Q40. Mijn online sociale groepen worden gezien als waardig door anderen online.

- o Helemaal mee oneens
- o Oneens
- o Deels mee oneens
- o Noch eens noch oneens
- o Deels mee eens
- o Mee eens
- o Helemaal mee eens

Einde enquête

Bedankt voor je tijd om aan deze enquête deel te nemen.

**Appendix B. Online Questionnaire in Dutch**

**Toestemming**

**Q1.** Bedankt voor je interesse in mijn onderzoek naar de online sociale identiteit van jongeren op Instagram.

Mijn naam is Milou Hakkenberg en studeer aan de Universiteit van Twente, ik ben een Masterstudent Communicatie Wetenschappen en voer momenteel mijn Master Thesis uit.

In deze enquête worden diverse uitspraken gedaan over de online sociale identiteit op Instagram en wordt er naar jouw mening gevraagd over deze uitspraken. Daarnaast worden er meerdere vragen gesteld over jouw demografische gegevens (Bijvoorbeeld. Je leeftijd). De enquête duurt ongeveer 10 minuten. De gegevens die worden verzameld zijn anoniem en worden alleen voor dit onderzoek gebruikt. Deelname aan deze vragenlijst is vrijwillig en je kunt op elk moment stoppen.

Heb je vragen of ben je geïnteresseerd in de resultaten, neem dan contact met mij op via m.f.hakkenberg@student.utwente.nl.

Als je aan dit onderzoek wilt deelnemen en minimaal 16 jaar bent, kun je hieronder 'Ja' antwoorden en doorgaan met de enquête. Als je niet wilt deelnemen kun je op 'Nee' klikken en verlaat je de enquête.

Bedankt voor je tijd, Milou Hakkenberg

- o Ja, Ik ga akkoord
- o Nee, Ik ga niet akkoord

---

Allereerst een aantal vragen over jezelf

**Q2.** Wat is je leeftijd? (Vul een getal in, bijvoorbeeld 18).

**Q3.** Heb je een Instagram account?

- o Ja
- o Nee

**Q4.** Maak je gebruik van je Instagram account?

- o Ja

o Nee

**Q5.** Hoe vaak maak je gebruik van je Instagram account?

- o Elke dag
- o Meerdere keren per week
- o Eén keer per week
- o Eén keer per maand
- o Eén keer per jaar

**Q6.** Wat is je geslacht?

- o Vrouw
- o Man
- o Anders, namelijk

**Q7.** In welke provincie woon je?

- o Groningen
- o Friesland
- o Drenthe
- o Overijssel
- o Flevoland
- o Gelderland
- o Utrecht
- o Noord-Holland
- o Zuid-Holland
- o Zeeland
- o Brabant
- o Limburg

**Q8.** Wat is je hoogst behaalde opleidingsniveau?

- o Vmbo
- o Havo
- o Vwo
- o Mbo
- o Hbo

o Wo

o Anders, namelijk

**Q9.** Wat is je huidige werk-/ studiesituatie?

- Student
- Parttime werk
- Fulltime werk
- Zzp'er
- Werkloos
- Anders, namelijk

**Q10.** Hoeveel volgers heb je op Instagram? Dit getal kun je vinder onder 'volgers' op je eigen profiel. Geef aantal (Bijvoorbeeld 100).

**Q11.** Wat is het gemiddelde aantal likes dat je hebt ontvangen op je laatste drie posts op Instagram? Dit getal kun je berekenen door het aantal likes van je laatste drie posts bij elkaar op te tellen en dit getal te delen door drie. Geef aantal (Bijvoorbeeld 50).

---

**Sociale connectie:** Je krijgt nu diverse uitspraken te zien over je sociale connectie met anderen op Instagram, geef aan in hoeverre je het hier mee eens bent of niet.

**Q12.** Ik voel mij verbonden met de wereld om mij heen op Instagram?

o Helemaal mee oneens

o Oneens

o Deels mee oneens

o Noch eens noch oneens

o Deels mee eens

o Mee eens

o Helemaal mee eens

**Q13.** Omringd door mensen die ik ken op Instagram, heb ik het gevoel dat ik thuishoor op Instagram.

o Helemaal mee oneens

- o Oneens
- o Deels mee oneens
- o Noch eens noch oneens
- o Deels mee eens
- o Mee eens
- o Helemaal mee eens

**Q14.** Ik voel mij hecht met andere mensen op Instagram.

- o Helemaal mee oneens
- o Oneens
- o Deels mee oneens
- o Noch eens noch oneens
- o Deels mee eens
- o Mee eens
- o Helemaal mee eens

**Q15.** Ik heb een gevoel van saamhorigheid met mijn leeftijdsgenoten op Instagram.

- o Helemaal mee oneens
- o Oneens
- o Deels mee oneens
- o Noch eens noch oneens
- o Deels mee eens
- o Mee eens
- o Helemaal mee eens

**Q16.** Ik voel mij verwant met andere mensen op Instagram.

- o Helemaal mee oneens
- o Oneens
- o Deels mee oneens
- o Noch eens noch oneens
- o Deels mee eens
- o Mee eens
- o Helemaal mee eens

**Q17.** Ik heb een gevoel van verbondenheid met de samenleving op Instagram.

- o Helemaal mee oneens
- o Oneens
- o Deels mee oneens
- o Noch eens noch oneens
- o Deels mee eens
- o Mee eens
- o Helemaal mee eens

**Q18.** Ik heb een gevoel van broeder- / zusterschap met mijn vrienden/ vriendinnen op Instagram.

- o Helemaal mee oneens
- o Oneens
- o Deels mee oneens
- o Noch eens noch oneens
- o Deels mee eens
- o Mee eens
- o Helemaal mee eens

**Q19.** Ik heb het gevoel dat ik deelneem aan groepen op Instagram.

- o Helemaal mee oneens
- o Oneens
- o Deels mee oneens
- o Noch eens noch oneens
- o Deels mee eens
- o Mee eens
- o Helemaal mee eens

---

**Activiteit:** Je krijgt nu diverse uitspraken te zien over je activiteit op Instagram, geef aan in hoeverre je het hier mee eens bent of niet.

**Q20.** Ik besteed tijd aan het creëren van content op Instagram.

- o Helemaal mee oneens

o Oneens

o Noch eens noch oneens

o Mee eens

o Helemaal mee eens

**Q21.** Ik deel informatie op Instagram.

o Helemaal mee oneens

o Oneens

o Noch eens noch oneens

o Mee eens

o Helemaal mee eens

**Q22.** Ik ontmoet nieuwe mensen op Instagram.

o Helemaal mee oneens

o Oneens

o Noch eens noch oneens

o Mee eens

o Helemaal mee eens

**Q23.** Ik praat met andere mensen op Instagram.

o Helemaal mee oneens

o Oneens

o Noch eens noch oneens

o Mee eens

o Helemaal mee eens

**Q24.** Ik praat over hobby's en persoonlijke interesses op Instagram.

o Helemaal mee oneens

o Oneens

o Noch eens noch oneens

o Mee eens

o Helemaal mee eens

**Q25.** Ik post en upload video's en foto's op Instagram.

- o Helemaal mee oneens
- o Oneens
- o Noch eens noch oneens
- o Mee eens
- o Helemaal mee eens

**Q26.** Ik spendeer tijd aan het scrollen door content die door anderen is gecreëerd op Instagram.

- o Helemaal mee oneens
- o Oneens
- o Noch eens noch oneens
- o Mee eens
- o Helemaal mee eens

**Online sociale identiteit:** Je krijgt nu diverse uitspraken te zien over online sociale groepen, geef aan in hoeverre je het hier mee eens bent of niet.
*Een sociale groep in een groep mensen die gelijke eigenschappen en interesses met elkaar delen en een gevoel van eenheid hebben, online is dit bijvoorbeeld door het liken en volgen van andermans content.*

**Q27.** Mijn online social groepen dragen bij aan hoe ik over mijzelf denk.

- o Helemaal mee oneens
- o Oneens
- o Deels mee oneens
- o Noch eens noch oneens
- o Deels mee eens
- o Mee eens
- o Helemaal mee eens

**Q28.** Mijn online sociale groepen zijn een belangrijke weerspiegeling van wie ik ben.

- o Helemaal mee oneens
- o Oneens
- o Deels mee oneens

- o Noch eens noch oneens
- o Deels mee eens
- o Mee eens
- o Helemaal mee eens

**Q29.** Mijn online sociale groepen zijn belangrijk voor mijn gevoel over wat voor soort persoon ik ben.
- o Helemaal mee oneens
- o Oneens
- o Deels mee oneens
- o Noch eens noch oneens
- o Deels mee eens
- o Mee eens
- o Helemaal mee eens

**Q30.** Het behoren tot online sociale groepen is een belangrijk onderdeel van mijn zelfbeeld.
- o Helemaal mee oneens
- o Oneens
- o Deels mee oneens
- o Noch eens noch oneens
- o Deels mee eens
- o Mee eens
- o Helemaal mee eens

**Q31.** Ik heb geen spijt dat ik tot bepaalde online sociale groepen behoor.
- o Helemaal mee oneens
- o Oneens
- o Deels mee oneens
- o Noch eens noch oneens
- o Deels mee eens
- o Mee eens
- o Helemaal mee eens

**Q32.** Ik ben blij lid te zijn van mijn online sociale groepen.

- o Helemaal mee oneens
- o Oneens
- o Deels mee oneens
- o Noch eens noch oneens
- o Deels mee eens
- o Mee eens
- o Helemaal mee eens

**Q33**. Het is de moeite waard om te behoren tot mijn online sociale groepen.
- o Helemaal mee oneens
- o Oneens
- o Deels mee oneens
- o Noch eens noch oneens
- o Deels mee eens
- o Mee eens
- o Helemaal mee eens

**Q34**. Ik voel mij goed over mijn online sociale groepen.
- o Helemaal mee oneens
- o Oneens
- o Deels mee oneens
- o Noch eens noch oneens
- o Deels mee eens
- o Mee eens
- o Helemaal mee eens

**Q35.** Ik ben een waardig lid van mijn online sociale groepen.
- o Helemaal mee oneens
- o Oneens
- o Deels mee oneens
- o Noch eens noch oneens
- o Deels mee eens
- o Mee eens
- o Helemaal mee eens

**Q36.** Ik heb het gevoel dat ik veel te bieden heb een mijn online sociale groepen.

- o Helemaal mee oneens
- o Oneens
- o Deels mee oneens
- o Noch eens noch oneens
- o Deels mee eens
- o Mee eens
- o Helemaal mee eens

**Q37.** Ik ben een deelnemer die samenwerkt in mijn online sociale groepen.

- o Helemaal mee oneens
- o Oneens
- o Deels mee oneens
- o Noch eens noch oneens
- o Deels mee eens
- o Mee eens
- o Helemaal mee eens

**Q38.** Ik heb het gevoel dat ik een nuttig lid ben van mijn online sociale groepen.

- o Helemaal mee oneens
- o Oneens
- o Deels mee oneens
- o Noch eens noch oneens
- o Deels mee eens
- o Mee eens
- o Helemaal mee eens

**Q39.** Door anderen worden mijn online sociale groepen, over het algemeen, als goed beschouwd online.

- o Helemaal mee oneens
- o Oneens
- o Deels mee oneens
- o Noch eens noch oneens
- o Deels mee eens

o Mee eens

o Helemaal mee eens

**Q40.** De meeste mensen beschouwen mijn online sociale groepen, gemiddeld genomen, als effectiever dan andere online sociale groepen.

o Helemaal mee oneens

o Oneens

o Deels mee oneens

o Noch eens noch oneens

o Deels mee eens

o Mee eens

o Helemaal mee eens

**Q41.** Mijn online sociale groepen worden gerespecteerd door anderen online.

o Helemaal mee oneens

o Oneens

o Deels mee oneens

o Noch eens noch oneens

o Deels mee eens

o Mee eens

o Helemaal mee eens

**Q42.** Mijn online sociale groepen worden gezien als waardig door anderen online.

o Helemaal mee oneens

o Oneens

o Deels mee oneens

o Noch eens noch oneens

o Deels mee eens

o Mee eens

o Helemaal mee eens

Bedankt voor je tijd om aan deze enquête deel te nemen. Als je geïnteresseerd bent in de resultaten of vragen hebt neem dan contact met mij via m.f.hakkenberg@student.utwente.nl en dan zal ik deze naar je toe sturen.

**Appendix C. Online Questionnaire in English**

**Consent**

**Q1.** Thank you for your interest in my research on the online social identity of young people on Instagram.

My name is Milou Hakkenberg, and I study at the University of Twente, I am a Master's student of Communication Science and currently conducting my Master's Thesis.

In this survey, various statements are made about the online social identity and your opinion is asked about these statements. In addition, several questions are asked about your demographic data (for example, your age). The survey takes about 10 minutes. The data collected is anonymous and will only be used for this study. Participation in this survey is voluntary and you can stop at any time.

If you have any questions or are interested in the results, please contact me at m.f.hakkenberg@student.utwente.nl.

If you want to participate in this survey and are at least 16 years old, you can answer 'Yes' below and continue with the survey. If you do not want to participate, you can click 'No' and leave the survey.

Thank you for your time, Milou Hakkenberg.

- o Yes, I agree
- o No, I do not agree

First, a few questions about yourself.

**Q2.** What is your age? (Enter number, e.g., 18).

**Q3.** Do you have an Instagram account?

- o Yes
- o No

**Q4.** Do you make use of your Instagram account?

- o Yes
- o No

**Q5.** How often do you use your Instagram account?

- o   Every day
- o   Multiple times per week
- o   Once a week
- o   Once a month
- o   Once a year

**Q6.** What is your gender?

- o   Female
- o   Male
- o   Other, namely

**Q7.** In which province do you live?

- o   Groningen
- o   Friesland
- o   Drenthe
- o   Overijssel
- o   Flevoland
- o   Gelderland
- o   Utrecht
- o   Noord-Holland
- o   Zuid-Holland
- o   Zeeland
- o   Brabant
- o   Limburg

**Q8.** What is your highest level of education achieved?

- o   vmbo
- o   havo
- o   vwo
- o   mbo
- o   hbo
- o   wo
- o   Other, namely

**Q9.** What is your work- / study situation?

- Student
- Parttime work
- Fulltime work
- Self-employed
- Unemployed
- Other, namely

**Q10.** How many followers do you have on Instagram? You can find this number under 'followers' on your own profile. Enter number (e.g., 100).

**Q11.** What is the average number of liked you have received on your last three posts on Instagram? You can calculate this number by adding up the number of liked from your last three posts and dividing this number by three. Enter number (e.g., 50).

---

**Social connectedness:** You will now see various statements about your social connectedness with others on Instagram, indicate to what extent you agree or not.

**Q12.** I feel connected to the world around me on Instagram.

- Strongly disagree
- Disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Agree
- Strongly agree

**Q13**. Around people I know on Instagram, I feel that I really belong on Instagram.

- Strongly disagree
- Disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree

- o Agree
- o Strongly agree

**Q14.** I feel close to other people on Instagram.

- o Strongly disagree
- o Disagree
- o Somewhat disagree
- o Neither agree nor disagree
- o Somewhat agree
- o Agree
- o Strongly agree

**Q15**. I have sense of togetherness with my peers on Instagram.

- o Strongly disagree
- o Disagree
- o Somewhat disagree
- o Neither agree nor disagree
- o Somewhat agree
- o Agree
- o Strongly agree

**Q16**. I feel related to other people on Instagram.

- o Strongly disagree
- o Disagree
- o Somewhat disagree
- o Neither agree nor disagree
- o Somewhat agree
- o Agree
- o Strongly agree

**Q17.** I have sense of connectedness with society on Instagram.

- o Strongly disagree
- o Disagree
- o Somewhat disagree

- o Neither agree nor disagree
- o Somewhat agree
- o Agree
- o Strongly agree

**Q18**. I have a sense of brother/ sisterhood with my friends on Instagram.
- o Strongly disagree
- o Disagree
- o Somewhat disagree
- o Neither agree nor disagree
- o Somewhat agree
- o Agree
- o Strongly agree

**Q19**. I feel that I participate in groups on Instagram.
- o Strongly disagree
- o Disagree
- o Somewhat disagree
- o Neither agree nor disagree
- o Somewhat agree
- o Agree
- o Strongly agree

---

**Activity:** You will now see various statements about your activity on Instagram, indicate to what extent you agree or not.

**Q20.** I spent time participating in content creation on Instagram.
- o Strongly disagree
- o Disagree
- o Neither agree nor disagree
- o Agree
- o Strongly agree

**Q21.** I share information on Instagram.

- o Strongly disagree
- o Disagree
- o Neither agree nor disagree
- o Agree
- o Strongly agree

**Q22.** I meet new people on Instagram.

- o Strongly disagree
- o Disagree
- o Neither agree nor disagree
- o Agree
- o Strongly agree

**Q23.** I talk to other people on Instagram.

- o Strongly disagree
- o Disagree
- o Neither agree nor disagree
- o Agree
- o Strongly agree

**Q24.** I talk about hobbies and personal interests on Instagram.

- o Strongly disagree
- o Disagree
- o Neither agree nor disagree
- o Agree
- o Strongly agree

**Q25.** I post and upload videos and photos on Instagram.

- o Strongly disagree
- o Disagree
- o Neither agree nor disagree
- o Agree
- o Strongly agree

**Q26.** I spent time browsing social network content created by others on Instagram.

- o Strongly disagree
- o Disagree
- o Neither agree nor disagree
- o Agree
- o Strongly agree

---

**Online social identity:** You will now see various statements about online social groups, indicate to what extent you agree or not.

*A social group is a group of people who share similar characteristics and interests with each other and have a sense of unity, for example online by liking and following other people's content.*

Q27. My online social groups contribute to how I feel about myself.

- o Strongly disagree
- o Disagree
- o Somewhat disagree
- o Neither agree nor disagree
- o Somewhat agree
- o Agree
- o Strongly agree

Q28. My online social groups are an important reflection of who I am.

- o Strongly disagree
- o Disagree
- o Somewhat disagree
- o Neither agree nor disagree
- o Somewhat agree
- o Agree
- o Strongly agree

Q29. My online social groups are important to my sense of what kind of person I am.

- o Strongly disagree

- o Disagree

- o Somewhat disagree

- o Neither agree nor disagree

- o Somewhat agree

- o Agree

- o Strongly agree

Q30. Belonging to online social groups is an important part of my self-image.

- o Strongly disagree

- o Disagree

- o Somewhat disagree

- o Neither agree nor disagree

- o Somewhat agree

- o Agree

- o Strongly agree

Q31. I do not regret that I belong to some of the online social groups.

- o Strongly disagree

- o Disagree

- o Somewhat disagree

- o Neither agree nor disagree

- o Somewhat agree

- o Agree

- o Strongly agree

Q32. I am glad to be a member of my online social groups.

- o Strongly disagree

- o Disagree

- o Somewhat disagree

- o Neither agree nor disagree

- o Somewhat agree

- o Agree

- o Strongly agree

Q33. It is worthwhile to be a member of my online social groups.

- o Strongly disagree
- o Disagree
- o Somewhat disagree
- o Neither agree nor disagree
- o Somewhat agree
- o Agree
- o Strongly agree

Q34. I feel good about my online social groups.

- o Strongly disagree
- o Disagree
- o Somewhat disagree
- o Neither agree nor disagree
- o Somewhat agree
- o Agree
- o Strongly agree

Q35. I am a worthy member of my online social groups.

- o Strongly disagree
- o Disagree
- o Somewhat disagree
- o Neither agree nor disagree
- o Somewhat agree
- o Agree
- o Strongly agree

Q36. I feel that I have much to offer to my online social groups.

- o Strongly disagree
- o Disagree
- o Somewhat disagree
- o Neither agree nor disagree
- o Somewhat agree
- o Agree

Q37. I am a cooperative participant in my online social groups.

- o Strongly disagree
- o Disagree
- o Somewhat disagree
- o Neither agree nor disagree
- o Somewhat agree
- o Agree
- o Strongly agree

Q38. I feel that I am a useful member of my online social groups.

- o Strongly disagree
- o Disagree
- o Somewhat disagree
- o Neither agree nor disagree
- o Somewhat agree
- o Agree
- o Strongly agree

Q39. Overall, my online social groups are considered good by others online.

- o Strongly disagree
- o Disagree
- o Somewhat disagree
- o Neither agree nor disagree
- o Somewhat agree
- o Agree
- o Strongly agree

Q40. Most people consider my online social groups, on average, to be more effective than other online social groups.

- o Strongly disagree
- o Disagree
- o Somewhat disagree

- o Neither agree nor disagree
- o Somewhat agree
- o Agree
- o Strongly agree

Q41. My online social groups are respected by others online.
- o Strongly disagree
- o Disagree
- o Somewhat disagree
- o Neither agree nor disagree
- o Somewhat agree
- o Agree
- o Strongly agree

Q42. My online social groups are seen as worthy by others online.
- o Strongly disagree
- o Disagree
- o Somewhat disagree
- o Neither agree nor disagree
- o Somewhat agree
- o Agree
- o Strongly agree

Thank you for taking the time to participate in this survey. If you are interested in the results of have any questions, please contact me via m.f.hakkenberg@student.utwente.nl and I will send them to you.

# Appendix D. Research Project Approval by BMS Ethics Committee

## UNIVERSITY OF TWENTE.

## APPROVED BMS EC RESEARCH PROJECT REQUEST

Dear researcher,

This is a notification from the BMS Ethics Committee concerning the web application form for the ethical review of research projects.

| | |
|---|---|
| Requestnr. : | 210642 |
| Title : | The Online Social Identity of Young People through Instagram. |
| Date of application : | 2021-04-13 |
| Researcher : | Hakkenberg, M.F. |
| Supervisor : | Scholten, H. |
| Commission : | Galetzka, M. |
| Usage of SONA : | Y |

Your research has been approved by the Ethics Committee.

The BMS ethical committee / Domain Humanities & Social Sciences has assessed the ethical aspects of your research project. On the basis of the information you provided, the committee does not have any ethical concerns regarding this research project.

It is your responsibility to ensure that the research is carried out in line with the information provided in the application you submitted for ethical review. If you make changes to the proposal that affect the approach to research on humans, you must resubmit the changed project or grant agreement to the ethical committee with these changes highlighted.

Moreover, novel ethical issues may emerge while carrying out your research. It is important that you re-consider and discuss the ethical aspects and implications of your research regularly, and that you proceed as a responsible scientist.

Finally, your research is subject to regulations such as the EU General Data Protection Regulation (GDPR), the Code of Conduct for the use of personal data in Scientific Research by VSNU (the Association of Universities in the Netherlands), further codes of conduct that are applicable in your field, and the obligation to report a security incident (data breach or otherwise) at the UT.

Galetzka, M. ( 07-05-2021 09:41):

NB: The approval given for your research project is conditional. Your study intends to make use of methods requiring social and physical interaction. This poses risks for both participants and researchers, which have to be taken into account. You have to comply with the current restrictions on social and physical interaction regarding the COVID19 outbreak. This may imply that you have to find alternative ways to collect data or to delay the start of your study until the restrictions have been adjusted or lifted. If adjustments lead to substantive changes in the design of your study (excluded: digital/online means to get in contact with your participants), send your changes to ethicscommittee-bms@utwente.nl stating your request number. Please consult the standing guidelines of the UT and national authorities on research and educational activities www.utwente.nl/corona

Scholten, H. ( 26-04-2021 12:29):

Feedback has been sent to Milou.

## Appendix E. Coding Sheet

| Group label | Qualtrics ID | Type | Question/description | Scale |
|---|---|---|---|---|
| **Consent** | Q1 | Numeric | Thank you for interest… | {1, Yes, I agree}… |
| **Filter questions** | Q2 | Numeric | What is your age? (Enter number, e.g., 18). | None |
| | Q3 | Numeric | Do you have an Instagram account? | {1, Yes}… |
| | Q4 | Numeric | Do you make use of your Instagram account? | {1, Yes}… |
| **Demograpphics** | Q5 | Numeric | How often do you use your Instagram account? | {1, Every day}… |
| | Q6 | Numeric | What is your gender? | {1, Female}… |
| | Q7 | Numeric | In which province do you live? | {1, Groningen}… |
| | Q8 | Numeric | What is your highest level of education achieved? | {1, vmbo}… |
| | Q9 | Numeric | What is your work- / study situation? | {1, Student}… |
| **Followers** | Q10 | Numeric | How many followers do you have on Instagram? | None |
| **Likes** | Q11 | Numeric | What is the average number of liked you have received on your last three posts on Instagram? | None |
| **Social Connectedness** | Q12 | Numeric | I feel connected to the world around me on Instagram. | {1, Stongly disagree}… |
| | Q13 | Numeric | Around people I know on Instagram, I feel that I really belong on Instagram. | {1, Stongly disagree}… |
| | Q14 | Numeric | I feel close to other people on Instagram. | {1, Stongly disagree}… |
| | Q15 | Numeric | I have sense of togetherness with my peers on Instagram. | {1, Stongly disagree}… |
| | Q16 | Numeric | I feel related to other people on Instagram. | {1, Stongly disagree}… |
| | Q17 | Numeric | I have sense of connectedness with society on Instagram. | {1, Stongly disagree}… |
| | Q18 | Numeric | I have a sense of brother/ sisterhood with my friends on Instagram. | {1, Stongly disagree}… |
| | Q19 | Numeric | I feel that I participate in groups on Instagram. | {1, Stongly disagree}… |
| **Activity** | Q20 | Numeric | I spent time participating in content creation on Instagram. | {1, Stongly disagree}… |
| | Q21 | Numeric | I share information on Instagram. | {1, Stongly disagree}… |
| | Q22 | Numeric | I meet new people on Instagram. | {1, Stongly disagree}… |
| | Q23 | Numeric | I talk to other people on Instagram. | {1, Stongly disagree}… |
| | Q24 | Numeric | I talk about hobbies and personal interests on Instagram. | {1, Stongly disagree}… |
| | Q25 | Numeric | I post and upload videos and photos on Instagram. | {1, Stongly disagree}… |
| | Q26 | Numeric | I spent time browsing social network content created by others on Instagram. | {1, Stongly disagree}… |
| **Social Identity** | Q27 | Numeric | My online social groups contribute to how I feel about myself. | {1, Stongly disagree}… |
| | Q28 | Numeric | My online social groups are an important reflection of who I am. | {1, Stongly disagree}… |
| | Q29 | Numeric | My online social groups are important to my sense of what kind of person I am. | {1, Stongly disagree}… |
| | Q30 | Numeric | Belonging to online social groups is an important part of my self-image. | {1, Stongly disagree}… |
| | Q31 | Numeric | I do not regret that I belong to some of the online social groups. | {1, Stongly disagree}… |
| | Q32 | Numeric | I am glad to be a member of my online social groups. | {1, Stongly disagree}… |
| | Q33 | Numeric | It is worthwhile to be a member of my online social groups. | {1, Stongly disagree}… |
| | Q34 | Numeric | I feel good about my online social groups. | {1, Stongly disagree}… |
| | Q35 | Numeric | I am a worthy member of my online social groups. | {1, Stongly disagree}… |
| | Q36 | Numeric | I feel that I have much to offer to my online social groups. | {1, Stongly disagree}… |
| | Q37 | Numeric | I am a cooperative participant in my online social groups. | {1, Stongly disagree}… |
| | Q38 | Numeric | I feel that I am a useful member of my online social groups. | {1, Stongly disagree}… |
| | Q39 | Numeric | Overall, my online social groups are considered good by others online. | {1, Stongly disagree}… |
| | Q40 | Numeric | Most people consider my online social groups, on average, to be more effective than other online soci | {1, Stongly disagree}… |
| | Q41 | Numeric | My online social groups are respected by others online. | {1, Stongly disagree}… |
| | Q42 | Numeric | My online social groups are seen as worthy by others online. | {1, Stongly disagree}… |
| **Ending** | Q43 | None | Thank you for taking the time to participate in this survey. If you are interested in the results … | None |

# Appendix F. Factor Analysis

| KMO and Bartlett's Test | | |
|---|---|---|
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy. | | 0.86 |
| | | |
| Bartlett's Test of Sphericity | Approx. Chi-Square | 2070.55 |
| | df | 351 |
| | Sig. | < .001 |

**Rotated Component Matrix**

| Constructs | | | Factors | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | 1 | 2 | 3 | 4 | 5 | 6 |
| **Online Social Identity** Cronbach's alpha .90 | Importance to Identity Online Cronbach's alpha .86 | 1. My online social groups contribute to how I feel about myself. | | | 0.82 | | | |
| | | 2. My online social groups are an important reflection of who I am. | | | 0.77 | | | |
| | | 3. My online social groups are important to my sense of what kind of person I am. | | | 0.82 | | | |
| | | 4. Belonging to online social groups is an important part of my self-image. | | | 0.69 | | | |
| | Private Collective Self-Esteem Online Cronbach's alpha .78 | 5. I do not regret that I belong to some of the online social groups. | | | | | 0.72 | |
| | | 6. I am glad to be a member of my online social groups. | | | | | 0.74 | |
| | | 7. It is worthwhile to be a member of my online social groups. | | | | | 0.68 | |
| | | 8. I feel good about my online social groups. | | | | | 0.59 | |
| | Membership Esteem Online Cronbach's alpha .90 | 9. I am a worthy member of my online social groups. | | 0.63 | | | | |
| | | 10. I feel that I have much to offer to my online social groups. | | 0.80 | | | | |
| | | 11. I am a cooperative participant in my online social groups. | | 0.79 | | | | |
| | | 12. I feel that I am a useful member of my online social groups. | | 0.73 | | | | |
| | | 13. Overall, my online social groups are considered good by others online. | | | | | | |
| | | 14. Most people consider my online social groups, on average, to be more effective than other online social groups. | | | | | | |
| | Public Collective Self-Esteem Online Cronbach's alpha .82 | 15. My online social groups are respected by others online. | | | | | | 0.82 |
| | | 16. My online social groups are seen as worthy by others online. | | | | | | 0.69 |
| **Social Connectedness on Instagram** Cronbach's Alpha .87 | | 1. I feel connected to the world around me on Instagram. | 0.62 | | | | | |
| | | 2. Around people I know on Instagram, I feel that I really belong on Instagram. | 0.60 | | | | | |
| | | 3. I feel close to other people on Instagram. | 0.75 | | | | | |
| | | 4. I have sense of togetherness with my peers on Instagram. | 0.70 | | | | | |
| | | 5. I feel related to other people on Instagram. | 0.78 | | | | | |
| | | 6. I have sense of connectedness with society on Instagram. | 0.68 | | | | | |
| | | 7. I have a sense of brother/ sisterhood with my friends on Instagram. | 0.56 | | | | | |
| | | 8. I feel that I participate in groups on Instagram. | 0.55 | | | | | |
| **Activity on Instagram** Cronbach's Alpha .84 | | 1. I spent time participating in content creation on Instagram. | | | | 0.75 | | |
| | | 2. I share information on Instagram. | | | | 0.76 | | |
| | | 3. I meet new people on Instagram. | | | | 0.48 | | |
| | | 4. I talk to other people on Instagram. | | | | 0.60 | | |
| | | 5. I talk about hobbies and personal interests on Instagram. | | | | 0.55 | | |
| | | 6. I post and upload videos and photos on Instagram. | | | | 0.82 | | |
| | | 7. I spent time browsing social network content created by others on Instagram. | | | | | | |

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a Rotation coverged in 8 iterations.

## Appendix G. Full Regression Output 1. Importance to Identity Online

**Variables Entered/Removed**

| Model | Variables Entered | Variables Removed | Method |
|---|---|---|---|
| 1 | Gender, Activity, Followers, Social Connectedness, Likesb | . | Enter |
| 2 | Gender_x_Activity, Gender_x_Likes, Gender_x_Social_ Connectedness, Gender_x_Followersb | . | Enter |

a Dependent Variable: New_Identity Importance to Identity Online

b All requested variables entered.

**Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | R Square Change | F Change | df1 | df2 | Sig. F Change |
| 1 | .58a | 0.34 | 0.31 | 1.06 | 0.34 | 12.387 | 5 | 121 | < .001 |
| 2 | .59b | 0.36 | 0.31 | 1.06 | 0.02 | 0.834 | 4 | 117 | 0.506 |

a Predictors: (Constant), Gender, Activity, Followers, Social Connectedness, Likes

b Predictors: (Constant), Gender, Activity, Followers, Social Connectedness, Likes,

Gender_x_Activity, Gender_x_Likes, Gender_x_Social_Connectedness, Gender_x_Followers

**ANOVA**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regressio | 69.09 | 5 | 13.82 | 12.387 | < .001b |
| | Residual | 134.98 | 121 | 1.12 | | |
| | Total | 204.07 | 126 | | | |
| 2 | Regressio | 72.83 | 9 | 8.09 | 7.214 | < .001c |
| | Residual | 131.24 | 117 | 1.12 | | |
| | Total | 204.07 | 126 | | | |

a Dependent Variable: New_Identity Importance to Identity Online

b Predictors: (Constant), Gender, Activity, Followers, Social Connectedness, Likes

c Predictors: (Constant), Gender , Activity, Followers, Social Connectedness, Likes,

Gender_x_Activity, Gender_x_Likes, Gender_x_Social_Connectedness, Gender_x_Followers

**Coefficients**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | | | Collinearity Statistics | |
|---|---|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | t | Sig. | Tolerance | VIF |
| 1 | (Constant) | 1.14 | 0.48 | | 2.37 | 0.020 | | |
| | Social Connectedness on Instagram | 0.58 | 0.11 | 0.47 | 5.29 | < .001 | 0.70 | 1.42 |
| | Followers on Instagram | -7.67E-6 | 0.00 | -0.02 | -0.20 | 0.844 | 0.36 | 2.80 |
| | Likes on Instagram | 0.00 | 0.00 | -0.02 | -0.16 | 0.877 | 0.34 | 2.96 |
| | Activity on Instagram | 0.25 | 0.13 | 0.17 | 1.91 | 0.059 | 0.70 | 1.42 |
| | Gender | -0.31 | 0.21 | -0.12 | -1.48 | 0.141 | 0.91 | 1.10 |
| 2 | (Constant) | 1.29 | 0.56 | | 2.31 | 0.023 | | |
| | Social Connectedness on Instagram | 0.57 | 0.11 | 0.46 | 5.08 | < .001 | 0.68 | 1.48 |
| | Followers on Instagram | 0.00 | 0.00 | -0.25 | -0.82 | 0.416 | 0.06 | 16.83 |
| | Likes on Instagram | 0.00 | 0.00 | -0.02 | -0.13 | 0.899 | 0.24 | 4.09 |
| | Activity on Instagram | 0.29 | 0.13 | 0.19 | 2.15 | 0.033 | 0.68 | 1.48 |
| | Gender | -0.45 | 0.29 | -0.17 | -1.55 | 0.125 | 0.48 | 2.09 |
| | Gender_x_Social_Connectedness | -0.00 | 0.14 | -0.00 | -0.01 | 0.993 | 0.64 | 1.57 |
| | Gender_x_Followers | -0.70 | 0.72 | -0.35 | -0.97 | 0.335 | 0.04 | 24.09 |
| | Gender_x_Likes | 0.20 | 0.21 | 0.24 | 0.96 | 0.338 | 0.09 | 11.05 |
| | Gender_x_Activity | 0.16 | 0.13 | 0.12 | 1.24 | 0.218 | 0.61 | 1.65 |

a. Dependent Variable: New-Identity Importance to Identity Online

**Excluded Variables**

| Model | | Beta In | t | Sig. | Partial Correlation | Collinearity Statistics | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | Tolerance | VIF | Minimum Tolerance |
| 1 | Gender_x_Social_Connectedness | .08b | 1.01 | 0.313 | 0.09 | 0.95 | 1.05 | 0.33 |
| | Gender_x_Followers | .04b | 0.28 | 0.779 | 0.03 | 0.33 | 3.01 | 0.14 |
| | Gender_x_Likes | .06b | 0.65 | 0.520 | 0.06 | 0.72 | 1.39 | 0.27 |
| | Gender_x_Activity | .12b | 1.54 | 0.127 | 0.14 | 0.95 | 1.06 | 0.33 |

a Dependent Variable: New_Identity Importance to Identity Online

b Predictors in the Model: (Constant), Gender, Activity, Followers, Social Connectedness, Likes

**Collinearity Diagnostics**

| Model | Dimension | Eigenvalue | Condition Index | Variance Proportions (Constant) | Social Connectedness | Followers | Likes | Activity | Gender | Gender_x_Social_Connectedness | Gender_x_Followers | Gender_x_Likes | Gender_x_Activity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 4.68 | 1.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | | | | |
| | 2 | 1.02 | 2.15 | 0.00 | 0.00 | 0.19 | 0.03 | 0.00 | 0.01 | | | | |
| | 3 | 0.14 | 5.80 | 0.01 | 0.03 | 0.33 | 0.45 | 0.05 | 0.2 | | | | |
| | 4 | 0.11 | 6.66 | 0.01 | 0.03 | 0.42 | 0.45 | 0.03 | 0.45 | | | | |
| | 5 | 0.03 | 11.77 | 0.05 | 0.55 | 0.01 | 0.00 | 0.88 | 0.02 | | | | |
| | 6 | 0.03 | 13.13 | 0.94 | 0.39 | 0.05 | 0.07 | 0.04 | 0.32 | | | | |
| 2 | 1 | 4.74 | 1.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 2 | 2.24 | 1.45 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.03 | 0.01 | 0.01 | 0.04 |
| | 3 | 1.47 | 1.80 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.15 | 0.00 | 0.00 | 0.11 |
| | 4 | 0.79 | 2.45 | 0.00 | 0.00 | 0.01 | 0.02 | 0.00 | 0.00 | 0.07 | 0.00 | 0.05 | 0.05 |
| | 5 | 0.45 | 3.26 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.67 | 0.00 | 0.00 | 0.69 |
| | 6 | 0.14 | 5.87 | 0.00 | 0.02 | 0.00 | 0.05 | 0.04 | 0.25 | 0.00 | 0.04 | 0.03 | 0.02 |
| | 7 | 0.10 | 7.03 | 0.00 | 0.01 | 0.09 | 0.72 | 0.04 | 0.02 | 0.01 | 0.01 | 0.09 | 0.01 |
| | 8 | 0.04 | 11.38 | 0.27 | 0.41 | 0.15 | 0.01 | 0.01 | 0.00 | 0.00 | 0.18 | 0.12 | 0.01 |
| | 9 | 0.03 | 12.11 | 0.08 | 0.42 | 0.02 | 0.01 | 0.91 | 0.02 | 0.02 | 0.00 | 0.00 | 0.05 |
| | 10 | 0.01 | 19.42 | 0.64 | 0.13 | 0.72 | 0.18 | 0.00 | 0.71 | 0.06 | 0.76 | 0.69 | 0.01 |

a Dependent Variable: New_Identity Importance to Identity Online

## Appendix H. Full Regression Output 2. Private Collective Self-Esteem Online

**Variables Entered/Removed**

| Model | Variables Entered | Variables Removed | Method |
|---|---|---|---|
| 1 | Gender , Activity, Followers, Social Connectedness, Likesb | . | Enter |
| 2 | Gender_x_Activity, Gender_x_Likes, Gender_x_Social_ Connectedness, Gender_x_Followersb | . | Enter |

a Dependent Variable: New_Private Private Collective Self-Esteem Online

b All requested variables entered.

**Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | R Square Change | F Change | df1 | df2 | Sig. F Change |
| 1 | .42a | 0.17 | 0.14 | .85 | 0.17 | 5.046 | 5 | 121 | < .001 |
| 2 | .44b | 0.19 | 0.13 | .85 | 0.02 | 0.609 | 4 | 117 | 0.657 |

a Predictors: (Constant), Gender, Activity, Followers, Social Connectedness, Likes

b Predictors: (Constant), Gender, Activity, Followers, Social Connectedness, Likes,

Gender_x_Activity, Gender_x_Likes, Gender_x_Social_Connectedness, Gender_x_Followers

**ANOVA**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 18.17 | 5 | 3.63 | 5.046 | < .001b |
| | Residual | 87.13 | 121 | .72 | | |
| | Total | 105.30 | 126 | | | |
| 2 | Regression | 19.95 | 9 | 2.22 | 3.038 | .003c |
| | Residual | 85.36 | 117 | .73 | | |
| | Total | 105.30 | 126 | | | |

a Dependent Variable: New_Private Private Collective Self-Esteem Online

b Predictors: (Constant), Gender, Activity, Followers, Social Connectedness, Likes

c Predictors: (Constant), Gender , Activity, Followers, Social Connectedness, Likes,

Gender_x_Activity, Gender_x_Likes, Gender_x_Social_Connectedness, Gender_x_Followers

**Coefficients**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | | | Collinearity Statistics | |
|---|---|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | t | Sig. | Tolerance | VIF |
| 1 | (Constant) | 3.04 | 0.39 | | 7.87 | < .001 | | |
| | Social Connectedness on Instagram | 0.32 | 0.09 | 0.36 | 3.67 | < .001 | 0.70 | 1.42 |
| | Followers on Instagram | 8.87E-6 | 0.00 | 0.06 | 0.40 | 0.690 | 0.36 | 2.80 |
| | Likes on Instagram | -0.00 | 0.00 | -0.15 | -1.03 | 0.307 | 0.34 | 2.96 |
| | Activity on Instagram | 0.11 | 0.11 | 0.10 | 1.01 | 0.316 | 0.70 | 1.42 |
| | Gender | 0.20 | 0.17 | 0.10 | 1.17 | 0.244 | 0.91 | 1.10 |
| 2 | (Constant) | 3.08 | 0.45 | | 6.83 | < .001 | | |
| | Social Connectedness on Instagram | 0.30 | 0.09 | 0.34 | 3.37 | 0.001 | 0.68 | 1.48 |
| | Followers on Instagram | 0.00 | 0.00 | -0.20 | -0.58 | 0.564 | 0.06 | 16.83 |
| | Likes on Instagram | 0.00 | 0.00 | -0.02 | -0.11 | 0.912 | 0.24 | 4.09 |
| | Activity on Instagram | 0.12 | 0.11 | 0.11 | 1.13 | 0.262 | 0.68 | 1.48 |
| | Gender | 0.16 | 0.23 | 0.08 | 0.67 | 0.507 | 0.48 | 2.09 |
| | Gender_x_Social_Connectedness | -0.09 | 0.11 | -0.09 | -0.86 | 0.391 | 0.64 | 1.57 |
| | Gender_x_Followers | -0.30 | 0.58 | -0.21 | -0.52 | 0.606 | 0.04 | 24.09 |
| | Gender_x_Likes | 0.00 | 0.17 | 0.01 | 0.02 | 0.981 | 0.09 | 11.05 |
| | Gender_x_Activity | 0.07 | 0.10 | 0.08 | 0.70 | 0.484 | 0.61 | 1.65 |

a. Dependent Variable: New-Private Private Collective Self-Esteem Online

**Excluded Variables**

| Model | | Beta In | t | Sig. | Partial Correlation | Collinearity Statistics | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | Tolerance | VIF | Minimum Tolerance |
| 1 | Gender x Social Connectedness | -.06b | -0.76 | 0.451 | -0.07 | 0.95 | 1.05 | 0.33 |
| | Gender_x_Followers | -.18b | -1.27 | 0.205 | -0.12 | 0.33 | 3.01 | 0.14 |
| | Gender_x_Likes | -.12b | -1.24 | 0.217 | -0.11 | 0.72 | 1.39 | 0.27 |
| | Gender_x_Activity | -.01b | -0.14 | 0.890 | -0.01 | 0.95 | 1.06 | 0.33 |

a. Dependent Variable: New-Private Private Collective Self-Esteem Online

b. Predictors in the Model: (Constant), Gender, Activity, Followers, Social Connectedness, Likes

**Collinearity Diagnostics**

| Model | Dimension | Eigenvalue | Condition Index | Variance Proportions | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | (Constant) | Social Connectedness | Followers | Likes | Activity | Gender | Gender_x_Social_Connectedness | Gender_x_Followers | Gender_x_Likes | Gender_x_Activity |
| 1 | 1 | 4.68 | 1.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | | | | |
| | 2 | 1.02 | 2.15 | 0.00 | 0.00 | 0.19 | 0.03 | 0.00 | 0.01 | | | | |
| | 3 | 0.14 | 5.80 | 0.01 | 0.03 | 0.33 | 0.45 | 0.05 | 0.2 | | | | |
| | 4 | 0.11 | 6.66 | 0.01 | 0.03 | 0.42 | 0.45 | 0.03 | 0.45 | | | | |
| | 5 | 0.03 | 11.77 | 0.05 | 0.55 | 0.01 | 0.00 | 0.88 | 0.02 | | | | |
| | 6 | 0.03 | 13.13 | 0.94 | 0.39 | 0.05 | 0.07 | 0.04 | 0.32 | | | | |
| 2 | 1 | 4.74 | 1.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 2 | 2.24 | 1.45 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.03 | 0.01 | 0.01 | 0.04 |
| | 3 | 1.47 | 1.80 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.15 | 0.00 | 0.00 | 0.11 |
| | 4 | 0.79 | 2.45 | 0.00 | 0.00 | 0.01 | 0.02 | 0.00 | 0.00 | 0.07 | 0.00 | 0.05 | 0.05 |
| | 5 | 0.45 | 3.26 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.67 | 0.00 | 0.00 | 0.69 |
| | 6 | 0.14 | 5.87 | 0.00 | 0.02 | 0.00 | 0.05 | 0.04 | 0.25 | 0.00 | 0.04 | 0.03 | 0.02 |
| | 7 | 0.10 | 7.03 | 0.00 | 0.01 | 0.09 | 0.72 | 0.04 | 0.02 | 0.01 | 0.01 | 0.09 | 0.01 |
| | 8 | 0.04 | 11.38 | 0.27 | 0.41 | 0.15 | 0.01 | 0.01 | 0.00 | 0.00 | 0.18 | 0.12 | 0.01 |
| | 9 | 0.03 | 12.11 | 0.08 | 0.42 | 0.02 | 0.01 | 0.91 | 0.02 | 0.02 | 0.00 | 0.00 | 0.05 |
| | 10 | 0.01 | 19.42 | 0.64 | 0.13 | 0.72 | 0.18 | 0.00 | 0.71 | 0.06 | 0.76 | 0.69 | 0.01 |

a Dependent Variable: New_Private Private Collective Self-Esteem  Online

# Appendix I. Full Regression Output 3. Membership Esteem Online

**Variables Entered/Removed**

| Model | Variables Entered | Variables Removed | Method |
|---|---|---|---|
| 1 | Gender, Activity, Followers, Social Connectedness, Likesb | . | Enter |
| 2 | Gender_x_Activity, Gender_x_Likes, Gender_x_Social_ Connectedness, Gender_x_Followersb | . | Enter |

a Dependent Variable: New_Membership Membership Esteem Online

b All requested variables entered.

**Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | R Square Change | F Change | df1 | df2 | Sig. F Change |
| 1 | .67a | .45 | .42 | 1.01 | .45 | 19.551 | 5 | 121 | < .001 |
| 2 | .69b | .47 | .43 | 1.00 | .02 | 1.342 | 4 | 117 | .259 |

a Predictors: (Constant), Gender, Activity, Followers, Social Connectedness, Likes

b Predictors: (Constant), Gender, Activity, Followers, Social Connectedness, Likes,

Gender_x_Activity, Gender_x_Likes, Gender_x_Social_Connectedness, Gender_x_Followers

**ANOVA**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 98.70 | 5 | 19.74 | 19.551 | < .001b |
| | Residual | 122.18 | 121 | 1.01 | | |
| | Total | 220.88 | 126 | | | |
| 2 | Regression | 104.06 | 9 | 11.56 | 11.581 | < .001c |
| | Residual | 116.82 | 117 | 1.00 | | |
| | Total | 220.88 | 126 | | | |

a Dependent Variable: New_Membership Membership Esteem Online

b Predictors: (Constant), Gender, Activity, Followers, Social Connectedness, Likes

c Predictors: (Constant), Gender, Activity, Followers, Social Connectedness, Likes,

Gender_x_Activity, Gender_x_Likes, Gender_x_Social_Connectedness, Gender_x_Followers

**Coefficients**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | | | Collinearity Statistics | |
|---|---|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | t | Sig. | Tolerance | VIF |
| 1 | (Constant) | -0.12 | 0.46 | | -0.26 | 0.793 | | |
| | Social Connectedness on Instagram | 0.35 | 0.10 | 0.28 | 3.42 | 0.001 | 0.70 | 1.42 |
| | Followers on Instagram | -7.11E-6 | 0.00 | -0.09 | -0.79 | 0.434 | 0.36 | 2.80 |
| | Likes on Instagram | 0.00 | 0.00 | 0.03 | 0.25 | 0.803 | 0.34 | 2.96 |
| | Activity on Instagram | 0.72 | 0.12 | 0.47 | 5.82 | < .001 | 0.70 | 1.42 |
| | Gender | 0.42 | 0.20 | 0.15 | 2.07 | 0.040 | 0.91 | 1.10 |
| 2 | (Constant) | -0.29 | 0.53 | | -0.56 | 0.579 | | |
| | Social Connectedness on Instagram | 0.34 | 0.11 | 0.26 | 3.21 | 0.002 | 0.68 | 1.48 |
| | Followers on Instagram | 0.00 | 0.00 | 0.17 | 0.60 | 0.552 | 0.06 | 16.83 |
| | Likes on Instagram | 0.00 | 0.00 | -0.05 | -0.37 | 0.709 | 0.24 | 4.09 |
| | Activity on Instagram | 0.74 | 0.13 | 0.48 | 5.90 | < .001 | 0.68 | 1.48 |
| | Gender | 0.56 | 0.27 | 0.20 | 2.03 | 0.045 | 0.48 | 2.09 |
| | Gender_x_Social_Connectedness | -0.17 | 0.13 | -0.12 | -1.37 | 0.174 | 0.64 | 1.57 |
| | Gender_x_Followers | 0.55 | 0.68 | 0.27 | 0.81 | 0.421 | 0.04 | 24.09 |
| | Gender_x_Likes | -0.08 | 0.20 | -0.09 | -0.38 | 0.706 | 0.09 | 11.05 |
| | Gender_x_Activity | 0.16 | 0.12 | 0.12 | 1.34 | 0.183 | 0.61 | 1.65 |

a. Dependent Variable: New-Membership Membership Esteem Online

**Excluded Variables**

| Model | | Beta In | t | Sig. | Partial Correlation | Collinearity Statistics | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | Tolerance | VIF | Minimum Tolerance |
| 1 | Gender x Social Connectedness | -.05b | -0.66 | 0.508 | -0.06 | 0.95 | 1.05 | 0.33 |
| | Gender_x_Followers | .19b | 1.60 | 0.112 | 0.14 | 0.33 | 3.01 | 0.14 |
| | Gender_x_Likes | .10b | 1.25 | 0.215 | 0.11 | 0.72 | 1.39 | 0.27 |
| | Gender_x_Activity | .08b | 1.15 | 0.253 | 0.10 | 0.95 | 1.06 | 0.33 |

a Dependent Variable: New_Membership Online Membership Esteem

b Predictors in the Model: (Constant), Gender, Activity, Followers, Social Connectedness, Likes

**Collinearity Diagnostics**

| Model | Dimension | Eigenvalue | Condition Index | Variance Proportions | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | (Constant) | Social Connectedness | Followers | Likes | Activity | Gender | Gender_x_Social_Connectedness | Gender_x_Followers | Gender_x_Likes | Gender_x_Activity |
| 1 | 1 | 4.68 | 1.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | | | | |
| | 2 | 1.02 | 2.15 | 0.00 | 0.00 | 0.19 | 0.03 | 0.00 | 0.01 | | | | |
| | 3 | 0.14 | 5.80 | 0.01 | 0.03 | 0.33 | 0.45 | 0.05 | 0.2 | | | | |
| | 4 | 0.11 | 6.66 | 0.01 | 0.03 | 0.42 | 0.45 | 0.03 | 0.45 | | | | |
| | 5 | 0.03 | 11.77 | 0.05 | 0.55 | 0.01 | 0.00 | 0.88 | 0.02 | | | | |
| | 6 | 0.03 | 13.13 | 0.94 | 0.39 | 0.05 | 0.07 | 0.04 | 0.32 | | | | |
| 2 | 1 | 4.74 | 1.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 2 | 2.24 | 1.45 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.03 | 0.01 | 0.01 | 0.04 |
| | 3 | 1.47 | 1.80 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.15 | 0.00 | 0.00 | 0.11 |
| | 4 | 0.79 | 2.45 | 0.00 | 0.00 | 0.01 | 0.02 | 0.00 | 0.00 | 0.07 | 0.00 | 0.05 | 0.05 |
| | 5 | 0.45 | 3.26 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.67 | 0.00 | 0.00 | 0.69 |
| | 6 | 0.14 | 5.87 | 0.00 | 0.02 | 0.00 | 0.05 | 0.04 | 0.25 | 0.00 | 0.04 | 0.03 | 0.02 |
| | 7 | 0.10 | 7.03 | 0.00 | 0.01 | 0.09 | 0.72 | 0.04 | 0.02 | 0.01 | 0.01 | 0.09 | 0.01 |
| | 8 | 0.04 | 11.38 | 0.27 | 0.41 | 0.15 | 0.01 | 0.01 | 0.00 | 0.00 | 0.18 | 0.12 | 0.01 |
| | 9 | 0.03 | 12.11 | 0.08 | 0.42 | 0.02 | 0.01 | 0.91 | 0.02 | 0.02 | 0.00 | 0.00 | 0.05 |
| | 10 | 0.01 | 19.42 | 0.64 | 0.13 | 0.72 | 0.18 | 0.00 | 0.71 | 0.06 | 0.76 | 0.69 | 0.01 |

a Dependent Variable: New_Membership Membership Esteem Online

# Appendix J. Full Regression Output 4. Public Collective Self-Esteem Online

**Variables Entered/Removed**

| Model | Variables Entered | Variables Removed | Method |
|---|---|---|---|
| 1 | Gender, Activity, Followers, Social Connectedness, Likesb | . | Enter |
| 2 | Gender_x_Activity, Gender_x_Likes, Gender_x_Social_Connectedness, Gender_x_Followersb | . | Enter |

a Dependent Variable: New_Public Public Collective Self-Esteem Online

b All requested variables entered.

**Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | R Square Change | F Change | df1 | df2 | Sig. F Change |
| 1 | .52a | .27 | .24 | .87 | .27 | 8.997 | 5 | 121 | < .001 |
| 2 | .54b | .29 | .24 | .87 | .02 | 0.966 | 4 | 117 | .429 |

a Predictors: (Constant), Gender, Activity, Followers, Social Connectedness, Likes

b Predictors: (Constant), Gender, Activity, Followers, Social Connectedness, Likes,
Gender_x_Activity, Gender_x_Likes, Gender_x_Social_Connectedness, Gender_x_Followers

**ANOVA**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 33.86 | 5 | 6.77 | 8.997 | < .001b |
| | Residual | 91.08 | 121 | 0.75 | | |
| | Total | 124.94 | 126 | | | |
| 2 | Regression | 36.77 | 9 | 4.09 | 5.433 | < .001c |
| | Residual | 88.17 | 117 | 0.75 | | |
| | Total | 124.94 | 126 | | | |

a Dependent Variable: New_Public Public Collective Self-Esteem Online

b Predictors: (Constant), Gender, Activity, Followers, Social Connectedness, Likes

c Predictors: (Constant), Gender , Activity, Followers, Social Connectedness, Likes,
Gender_x_Activity, Gender_x_Likes, Gender_x_Social_Connectedness, Gender_x_Followers

**Coefficients**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | | | Collinearity Statistics | |
|---|---|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | t | Sig. | Tolerance | VIF |
| 1 | (Constant) | 2.72 | 0.40 | | 6.88 | < .001 | | |
| | Social Connectedness on Instagram | 0.39 | 0.09 | 0.41 | 4.39 | < .001 | 0.70 | 1.42 |
| | Followers on Instagram | 0.00 | 0.00 | -0.27 | -2.09 | 0.038 | 0.36 | 2.80 |
| | Likes on Instagram | 0.00 | 0.00 | 0.24 | 1.78 | 0.078 | 0.34 | 2.96 |
| | Activity on Instagram | 0.11 | 0.11 | 0.10 | 1.05 | 0.298 | 0.70 | 1.42 |
| | Gender | -0.01 | 0.17 | -0.00 | -0.04 | 0.967 | 0.91 | 1.10 |
| 2 | (Constant) | 2.63 | 0.46 | | 5.72 | < .001 | | |
| | Social Connectedness on Instagram | 0.38 | 0.09 | 0.40 | 4.18 | < .001 | 0.68 | 1.48 |
| | Followers on Instagram | -7.17E-6 | 0.00 | -0.15 | -0.48 | 0.631 | 0.06 | 1.683 |
| | Likes on Instagram | 0.00 | 0.00 | 0.17 | 1.10 | 0.272 | 0.24 | 4.09 |
| | Activity on Instagram | 0.14 | 0.11 | 0.12 | 1.27 | 0.206 | 0.68 | 1.48 |
| | Gender | 0.05 | 0.24 | 0.03 | 0.22 | 0.824 | 0.48 | 2.09 |
| | Gender_x_Social_Connectedness | -0.09 | 0.11 | -0.08 | -0.80 | 0.426 | 0.64 | 1.57 |
| | Gender_x_Followers | 0.13 | 0.59 | 0.08 | 0.22 | 0.828 | 0.04 | 24.09 |
| | Gender_x_Likes | 0.00 | 0.17 | 0.01 | 0.02 | 0.981 | 0.09 | 11.05 |
| | Gender_x_Activity | 0.16 | 0.10 | 0.16 | 157 | 0.119 | 0.61 | 1.65 |

a. Dependent Variable: New-Public Public Collective Self-Esteem Online

**Excluded Variables**

| Model | | Beta In | t | Sig. | Partial Correlation | Collinearity Statistics | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | Tolerance | VIF | Minimum Tolerance |
| 1 | Gender_x_Social_Connectedness | .02b | 0.19 | 0.849 | 0.02 | 0.95 | 1.05 | 0.33 |
| | Gender_x_Followers | .16b | 1.18 | 0.241 | 0.11 | 0.33 | 3.01 | 0.14 |
| | Gender_x_Likes | .10b | 1.07 | 0.288 | 0.10 | 0.72 | 1.39 | 0.27 |
| | Gender_x_Activity | .13b | 1.67 | 0.098 | 0.15 | 0.95 | 1.06 | 0.33 |

a Dependent Variable: New_Public Public Collective Self-Esteem Online

b Predictors in the Model: (Constant), Gender, Activity, Followers, Social Connectedness, Likes

**Collinearity Diagnostics**

| Model | Dimension | Eigenvalue | Condition Index | Variance Proportions | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | (Constant) | Social Connectedness | Followers | Likes | Activity | Gender | Gender x Social Connectedness | Gender x Followers | Gender x Likes | Gender x Activity |
| 1 | 1 | 4.68 | 1.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | | | | |
| | 2 | 1.02 | 2.15 | 0.00 | 0.00 | 0.19 | 0.03 | 0.00 | 0.01 | | | | |
| | 3 | 0.14 | 5.80 | 0.01 | 0.03 | 0.33 | 0.45 | 0.05 | 0.20 | | | | |
| | 4 | 0.11 | 6.66 | 0.01 | 0.03 | 0.42 | 0.45 | 0.03 | 0.45 | | | | |
| | 5 | 0.03 | 11.77 | 0.05 | 0.55 | 0.01 | 0.00 | 0.88 | 0.02 | | | | |
| | 6 | 0.03 | 13.13 | 0.94 | 0.39 | 0.05 | 0.07 | 0.04 | 0.32 | | | | |
| 2 | 1 | 4.74 | 1.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 2 | 2.24 | 1.45 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.03 | 0.01 | 0.01 | 0.04 |
| | 3 | 1.47 | 1.80 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.15 | 0.00 | 0.00 | 0.11 |
| | 4 | 0.79 | 2.45 | 0.00 | 0.00 | 0.01 | 0.02 | 0.00 | 0.00 | 0.07 | 0.00 | 0.05 | 0.05 |
| | 5 | 0.45 | 3.26 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.67 | 0.00 | 0.00 | 0.69 |
| | 6 | 0.14 | 5.87 | 0.00 | 0.02 | 0.00 | 0.05 | 0.04 | 0.25 | 0.00 | 0.04 | 0.03 | 0.02 |
| | 7 | 0.10 | 7.03 | 0.00 | 0.01 | 0.09 | 0.72 | 0.04 | 0.02 | 0.01 | 0.01 | 0.09 | 0.01 |
| | 8 | 0.04 | 11.38 | 0.27 | 0.41 | 0.15 | 0.01 | 0.01 | 0.00 | 0.00 | 0.18 | 0.12 | 0.01 |
| | 9 | 0.03 | 12.11 | 0.08 | 0.42 | 0.02 | 0.01 | 0.91 | 0.02 | 0.02 | 0.00 | 0.00 | 0.05 |
| | 10 | 0.01 | 19.42 | 0.64 | 0.13 | 0.72 | 0.18 | 0.00 | 0.71 | 0.06 | 0.76 | 0.69 | 0.01 |

a Dependent Variable: New_Public Public Collective Self-Esteem Online