UNIVERSITY OF TWENTE.

Deception on Facebook

Relation between Personality, Deviation from Reality and Channels of Deception

Bachelor Thesis

B.Sc. Psychology

Tim Möller

s1376063

Supervision and Examination Committee

Dr. Marielle Stel

Dr. Marco van Bommel

Department Psychology of Conflict, Risk & Safety

Enschede, June 2016

The Netherlands

Per slot van rekening is de menselijke ziel nu eenmaal zo ingesteld, dat eerder de schijn dan de werkelijkheid haar imponeert.

Erasmus van Rotterdam, Lof der Zotheid (1509)

Abstract

Purpose: The purpose of this explorative study is to investigate to what extent facebook users engage in deceptive self-impression management, publishing an enhanced version of their self. Further purpose of this study was to explore to which degree personality can be related to the deviation from reality and the channels of deception on facebook. **Method:** A group of 94 respondents filled in an online survey containing questions about their facebook use and deceptive behaviour. Further, estimates about the facebook use of others were asked. Finally the respondents filled in the Brief HEXACO Inventory (BHI). **Results:** Prevalence analyses revealed that deception is a very common phenomenon on facebook. The majority of the respondents admitted to deceive when presenting themselves on the social network. The estimates about others' deceptive behaviour were even higher. The results showed personality can be related to the likelihood to deceive on facebook. Openness to Experience is thereby the personality dimension that is most strongly related to dishonesty in self-presentation. Extravert individuals in turn are most honest. **Discussion:** The findings are interpreted in light of personality and impression management theories. Further research to the new findings is suggested and strengths and limitations of the study are discussed. Finally, practical applications of the findings are suggested.

Samenvatting

Doel: Doel van deze exploratieve studie was om te onderzoeken in hoeverre facebook gebruikers bedriegen en een verbeterde versie van hunzelf publiceren. Tevens was het doel van deze studie om te exploreren in hoeverre persoonlijkheid, gerelateerd is aan de deviatie van de realiteit en de kanalen van deceptie op facebook. **Methode:** Een groep van 94 respondenten vulde een online-vragenlijst in over hun gebruik van facebook en bedriegelijk gedrag. Verder werden de respondenten gevraagd om inschattingen te geven over hoe anderen facebook gebruiken. Ten slotte vulden de respondenten de Brief HEXACO INVENTORY (BHI) in. **Resultaten:** Resultaten lieten zien dat deceptie een veel voorkomend fenomeen op facebook is. De meerderheid van de respondenten gaf toe dat ze over zich zelf liegen als ze zich in het sociale netwerk presenteren. De inschattingen over liegen door anderen waren zelfs hoger. Verder blijkt dat persoonlijkheid gerelateerd is aan de neiging om te liegen op facebook. Openheid voor ervaringen blijkt daarbij de persoonlijkheidsdimensie te zijn die het sterkst gerelateerd is aan oneerlijkheid. Extraverte individuen blijken de eerlijkste te zijn. **Discussie:** De bevindingen worden geïnterpreteerd in het licht van persoonlijkheids en impression management theorieën. Verder onderzoek voor de nieuwe bevindingen wordt voorgesteld en de sterkten en beperkingen van de studie worden besproken. Ten slotte worden praktische toepassingen van de bevindingen gesuggereerd.

Introduction

In the last decade the accessibility of the internet and online platforms has increased enormously all over the world and especially in the Western world. In 2003, 46 % of the German households had an internet connection and in 2015 it was already 88% (Statistisches Bundesamt, 2016). This indicates the increasing importance of the internet in our everyday lives, which includes the usage for private goals. Especially the usage of Social Networks as platforms to create a profile and an online identity have increased strongly with 1.4 Billion users worldwide in 2015 (Allfacebook.de, 2015). People get more and more connected and communicate more and more via these platforms. Surely, the accessibility of mobile internet on smartphones has mediated these developments, also replacing phone calls and text messaging. In 2015 an overall 64% of the internet users, used the internet to participate in social networks and for private communication whereas the group of adolescents between 16-24 years form the biggest group with a 93% using social networks (Statistisches Bundesamt, 2016).

The high accessibility and usage of online services by adolescents offers great opportunities for this group to can present themselves in a virtual environment and create an online identity, which they can carefully control. In this context it is noticeable that identity creation and the way other people see these young people is a very important period in the development to get a responsible and independent adult. Uncertainty about the self, peer pressure and the process of detachment from the parents strengthen the necessity to form an own and unique identity, whereby the image others get of a person and how they evaluate it, gets especially important. As Krämer and Winter (2008) reveal: *"Users of social networking sites have more control over their self-presentational behaviour than in face-to-face communication, which provides an ideal setting for precise impression management."* (p.106).

The main idea of Goffmans impression management theory is that people continuously try to control the impressions they make on others. This may lead to deception by eventually concealing information about oneself or giving wrong information (Feldman, Forrest, & Happ, 2002). Further options to deceive others about oneself are acting like a theatre player about the own emotional state and adopting socially desired opinions. The online self-presentation offers users the opportunity to

hide for example sadness and present themselves in a way that leads to an impression of a happy person. However, other authors find that the majority of user profiles give accurate representations of offline identities (Wilson, Gosling, & Graham, 2012).

Aim of this study is to investigate if social network users engage in deceptive self-impression management and if so, how they engage in deceptive self enhancement to improve their impressions on others, representing their ideal self. The term "deceptive self-impression management" will in this study be used for all activities that on facebook will be used to intentionally mislead others about the own personality. This also includes the publication of wrong information, as well as publishing misleading photos and concealing unbeneficial information. Second aim of this study is to investigate possible relationships between personality traits and deceptive self-presentational behaviour on facebook.

Impression management theory

For the investigation about deceptive self-presentation in online contexts, it is useful to take a closer look at one of the most influential theories about self-presentation, which is the *impression management theory.* This theory was first introduced by the Canadian sociologist Ervin Goffman, who elaborated an approach to explain interaction in human communication. The main idea of his impression management theory is that people continuously try to control the impressions they make on others. In social interactions the communicators on both sides have thus reciprocal expectations that influence the social interactions (Goffman, 1967, 1969). These expectations are about behaviour and the expectations of the interaction-partner: People anticipate potential reactions of others before they engage in certain behaviour. In these interactions, people take especially care about audience and context (Goffman, 1959). Further, the evaluation from the interaction-partner is a very important motivational factor to present oneself in a positive light and to try to influence the impressions, the other one has (Mumendey & Bolten, 1993). Since this evaluation from the interaction-partner is a direct feedback about one's behaviour, this may serve to improve or to confirm the self-concept by paying special attention to positive evaluations.

Different social psychologists agree about the idea that the self-concept, a theory about

oneself, is created and develops in social interactions (Oyserman, 2001). It includes beliefs about the own cognitions, emotions, behaviour and appearance and guides us through social interactions (Oyserman, 2001). These beliefs are derived from experiences in social interactions from the early childhood on and are mainly based on the reactions of others (Mummendey & Bolten, 1993; Oyserman, 2001). The others in this case serve as an evaluative mirror to one's actions: People can derive characteristics of themselves by observing the reactions of the others, may they be positive or negative. Further, as Oyserman (2001) states, the self-concept is the basis for the drives, striving for efficacy and competence, *"reflecting an innate need to become more effective, more competent over time"* (Oyserman, 2001, p.503). Summed up, the self-concept is a theory about oneself retrieved from interactions with others that forces us to improve the thoughts about our self *(self-improvement)* and in the same way, improve the impressions we make on others *(self-enhancement)* (Oyserman, 2001; Mummendey & Bolten, 1993).

Self-improvement and self-enhancement together form thus an always returning circle of making impressions and retrieving beliefs about oneself from others and fit perfectly into the theory of self-impression management. As it is an innate need, all humans are exposed to self-impression management taking part at both sides of the interaction. There are different strategies that people use to influence the others' impressions that can be both, conscious or unconscious (Mummendey & Bolten, 1993).

All of these different strategies have the common purpose to improve the impressions that are made on others in order to seem as a more likeable or competent person. They have been summarized in a taxonomy which is made of different tactics that are all suitable for impression management on facebook, they do not necessarily need face-to-face contact to get applied. The list of strategies consists of *self-promotion, ingratiation, intimidation, supplication* and *exemplification* (Jones & Pittman, 1982; Lewis & Neighbors, 2005). Self-promotion, by definition, happens when people accentuate their titles and performances in order to appear competent to the bystanders. Ingratiation refers to interactions in which individuals give compliments to others in order to appear likeable and friendly. Intimidation takes place when the self-presenters promote their abilities that demonstrate their power in order to appear hazardous to their observers and supplication refers to situations in

which people show their weaknesses to receive commiseration and empathy from their social environment. Finally, exemplification takes place, when people do much more than what is expected for a certain task in order to be perceived as hardworking (Lewis & Neighbors, 2005). Since these strategies form part of impression management, they can also be applied online on facebook, as will be described in the following paragraph.

Impression management in online environments

Online environments offer various opportunities to engage in conscious self-impression management strategies because people have full control over the contents they publicize. On websites there is always the possibility to read or review again what is going to be sent and it can be changed to bring it to perfect. According to the self-impression management theory, it is very important for people to receive an evaluation from the partner of interaction (Mummendey & Bolten, 1993). In line with this aspect, social networks offer a wide range of opportunities to evaluate the profiles of users in a simple and unmistakable way through "likes" (a thumb-up button to show if someone likes or dislikes a user`s contribution) or commentaries. These are published for everyone in the network including the information who evaluated and how many people did. This constant public evaluation process may be a strong motivator to take good care of the image about oneself, people are leaving online, and helps to evaluate which sort of contributions are evaluated as good or bad. This in turn gives the users the opportunity to adapt their way of posting and engage in highly controlled self-impression management.

As earlier mentioned, there exist different ways of selective self-presentational behaviour. In line with impression management strategies, there are different possibilities to present oneself on facebook by the use of different channels and strategies (Lewis & Neighbors, 2005). The self-promotion strategy can be used by way of posting contents about the own accomplishments or uploading photos with the same purpose. Further the ingratiation strategy can be especially applied by using the comments function. There facebook users can comment on photos and posts from others which gives a good opportunity to make compliments and appear likeable. Intimidation can be especially applied through commentaries and posts and finds its' extreme forms in "cyberbullying"

(Belsey, 2005). Supplication (showing weakness to receive empathy) is mainly possible through the post- and photo-upload function. There users have the possibility to for example let their facebook friends know when they are sick, had an accident or have to work a lot, to receive some compassion. Finally, exemplification for example is possible through photo upload and posting, showing oneself at work.

Users are motivated to improve their impressions on facebook by personal goals. As research shows, the use of social networks is highly associated with self-esteem which in turn is a motivational factor for self-improvement and self-enhancement (Valkenburg, Peter, & Schouten, 2006). In this study over social networks and self-esteem among Dutch students, they revealed that positive feedback and high quantities of feedback correlate with higher self-esteem whereas negative feedback correlates with lower self-esteem. In line with this and the innate need to have a positive self-concept, the users should strive for improving their profiles in a socially desired way, which is mainly related to societal or peer group norms and may be different regarding factors like culture, generation, gender and social class (Ellis, Heino, & Gibbs, 2006).

The attractiveness of user profiles seems to be an important factor to succeed in the virtual environment. Research shows that people are more likely to initiate facebook friendship with users with attractive profile photos. This is especially noticeable for opposite-sex friendships. Further, users even prefer friendships with users that have no profile photo at all than with users with unattractive profile photos. (Wang, Moon, Kwon, Evans, & Stefanone, 2010). This may lead to the assumption that a precise self-impression management and the careful selection of photos to publish via facebook are important to many users' "success" on facebook which is increasing the self-esteem (Valkenburg, Peter, & Schouten, 2006).

Users of social networks are able to change their online behaviour to improve the impressions they make on others. The change of behaviour is facilitated through the possibility to delete already published contents and the time to edit everything carefully before it is going to be published. This can cause people to not tell the truth about oneself, in other words, to deceive (Feldman, Forrest, & Happ, 2002).

Deceptive self-presentation in online environments

Communication in social networks is different to communication in face-to-face situations and offers though many possibilities to present oneself in a very positive but credible light. It gives opportunities to the users that are not possible in face-to-face interaction like editing the own presentation, deleting mistakes and thinking carefully about the contents to communicate (Toma, Hancock, & Ellison, 2008). As shown before, the self-presentation in online contexts can lead to self-improvement, self enhancement and, because of the evaluations to self-promotion. The contents and the way people present themselves in those contexts define their online identity which potentially can be misleading and give a faked image of the self.

Virtual environments differ in some characteristics from real-life settings, which changes strongly the way in which communication takes place. As online behaviour is mainly verbal and all nonverbal information gets lost, it is much easier to lie in virtual environments than in natural settings, where liars always have to control their nonverbal behaviour which is a very difficult task and thus mostly the cue how people uncover deception (Toma, Hancock, & Ellison, 2008). The absence of these cues and the easiness online may thus provoke people to lie (Toma, Hancock, & Ellison, 2008; Walther, 1996). It is further argued that the earlier mentioned technological possibilities to easily improve the identity online compared to face-to-face situations serve as a "Techno Cocoon" which represents a self that may differ from the real self in a way the user wants others to perceive him (Rosen, 2012). However, other research reveals that reveal that self-presentations on the popular social networking site "facebook" are mostly accurate representations of the "true" identities in offline contexts (Wilson, Gosling, & Graham, 2012). Crucial in the accuracy of profiles in that study is the process how people become friends in social networks. As shown in their literature review, people tend to get to know each other first offline and then become friends on "facebook", which is different in other social networks like for example online dating sites (Wilson, Gosling, & Graham, 2012). Here, people normally get in contact with each other first in the internet and then later engage in face-to-face contact. Other research however shows contradicting results (Lu, 2008; Michikyan, Subrahmanyam and Dennis, 2014) revealing that the technological opportunities offered by facebook do lead to false and misleading presentations of the self. As research shows, many users of online

platforms are aware of presenting themselves in a way they would like to be, formulating their future goals to the ideal self. This may include attractive pictures from earlier times and wrong information about physical characteristics (Ellison, Heino, & Gibbs, 2006).

There are still remaining some arguments for the notion that online environments facilitate deception compared to offline environments. The hyperpersonal model describes how virtual environments facilitate deceptive behaviour regarding to self-presentational goals. It is stated that online communication gives room for *selective self-presentation,* which is a strategically and idealized version of the self-presentation in face-to-face communications (Walther, 1996). That means that users can carefully choose which information they give about themselves to improve their impression. Disadvantageous information will be omitted to keep the profile attractive. The asynchronicity of virtual communication allows users to carefully think about what they are writing and which information they give about themselves. People can always revise their messages before finally sending them. In face-to-face interactions this is impossible, because reactions are spontaneous. As already mentioned before, the reduction of communication cues like nonverbal behaviour is absent in online communication and it is thus not necessary to suppress those cues while communicating via the internet. Finally, the reallocation of cognitive resources allows people to put all mental resources to bring their profiles to perfect. The absence of mental tasks required by face-to-face interactions is at this juncture helpful.

The falseness and inaccuracy of facebook profiles is seen and evaluated differently. In the eyes of many users, the wrong information is not seen as deceptive, but in fact according to the definition of DePaulo et al. (2003), deception is a *"deliberate attempt to mislead others […] and literal truths designed to mislead are lies"* (p. 74). In their definition, lying and deceiving are two words for the same process. The misleading and wrong information people share on their online profiles is thus, by definition, deception. In the current study, this conception of deception will be guiding. The term "deception" in the context of misleading information about oneself on public online profiles is not meant to have any evaluative implications like it does in everyday situations. It will be used as a neutral and descriptive term.

11

Current research

The leading research questions in this study are of exploratory nature: *Do facebook users engage in deceptive self-impression management?* And: *How do they deceive via facebook?* The previous discussion leads to assumptions which will be formulated in hypotheses. Based on the impression management theory it is assumed that facebook users engage in deceptive self-impression management, presenting a false self on the social network, using therefore different strategies. Since the admission of deceptive behaviour is a very sensitive and socially undesired topic, it is hypothesized that facebook users tend to estimate others more often to deceive than they do themselves. This hypothesis is supported by the notion that indirect questions reduce the social desirability bias (Fisher, 1993). As illustrated in the previous discussion, deceptive self-impression management is a common everyday phenomenon which in addition is facilitated by online environments, the prevalence rates are hypothesized to affect more than the half of the population.

H1: The majority of the users engage in deceptive self-impression management on facebook.

H2: Self-admission rates related to deception are lower than prevalence estimates about others.

Personality and Self-Presentation on Facebook

The notion that self-impression management on facebook is strengthened by different motivational factors and goals may lead to the assumption that there exist individual differences in users' behaviour which in turn leads to the assumption that personality may be an independent variable that influences the way people present themselves and how honest they are about their presented self. For this investigation the model of the "HEXACO" model will be used.

The "HEXACO" model consists thus of six different personality traits, universal across all cultures. Those personality traits are *Honesty-Humility, Extraversion, Agreeableness, Conscientiousness, Openness to Experience* and *Emotionality* (Ashton & Lee, 2007). To sum it up shortly: Individuals that score high on Humility scales are seen as pretentious, hypocritical and

boastful (Ashton & Lee, 2007). Extravert individuals are seen as outgoing and sociable, agreeable individuals as friendly and compassionate, conscientious individuals as organized and efficient, neurotic individuals as nervous and oversensitive (Emotionality) and individuals that are open to experience are seen as curious and inventive (Goldberg, 1993; Ashton & Lee, 2007).

In addition to the first research topic, aim of this study is to explore about its' relationship with personality, which leads to following research questions: *Does personality influence the deviation from reality?* And: *Does personality influence the way in which users deceive about their selves on facebook?* Further, as discussed in the section about personality, it can be assumed that the degree in which individuals possess of a certain personality trait influences the chosen channels (different facebook activities) for giving misleading information about the self and the likability and degree of deceiving. Previous research has shown that personality is related to deceptive or truthful behaviour on social networks (Lu, 2008; Michikyan, Subrahmanyam, & Dennis, 2014). According to Lu (2008), the personality trait *Sensation Seeking* has been identified as a factor that leads to the tendency to deceive in online environments, the main field of this study however was "chatting", which is only a part of the field, this study aims to investigate. Further the construct of Sensation Seeking is derived from a different personality model than the HEXACO, but as research shows, it is strongly related to Openness to Experience (Aluja, García, & García, 2003). It may thus be assumed that individuals that score high on Openness to Experience, deceive more about themselves on facebook.

Other research shows that the traits Extraversion and Neuroticism were related to self-presentational behaviour on facebook (Michikyan, Subrahmanyam, & Dennis, 2014). According to their results, extravert individuals tend to be more honest in their self-presentations than introvert individuals. The researchers assume that this may be because extravert engage a lot in "real" or offline interactions, which they find rewarding. Their online contacts are thus no replacement of their offline contacts, they are more seen as extension to those. Neurotic individuals on the other hand tend to be more deceptive when presenting themselves on facebook (Michikyan, Subrahmanyam, & Dennis, 2014). Here the researchers argue, this may be the case because of the missing perceived social support, the individuals receive when presenting themselves in a nervous, moody and worried way. Since Emotionality and Neuroticism refer to the same construct (Digman, 1997), it is assumed that

these results can be replicated in this study.

Further research, searching for the relation between the missing personality traits and self-presentation online was suggested by different researchers (Michikyan, Subrahmanyam, & Dennis, 2014; Lu, 2008) and is still not available. This study aims to fill that gap and to provide a more holistic approach, considering all of the six personality dimensions, including Honesty-Humility, agreeableness, conscientiousness and Openness to Experience. Since the definition of humiliating individuals includes self-enhancing behaviour it is here assumed that individuals that score high on this score will deceive about themselves on facebook. Conscientious individuals are seen as very accurate and precise and are thus assumed to present themselves precisely, as well as agreeable individuals because honesty is a factor of this trait (Goldberg, 1990).

Since until now there has been no research over the channels in which people deceive, the question will be purely explorative and no hypothesis derived for the single traits. The previous discussion about personality and deception leads to following hypotheses:

H3: Personality is related to deviation from reality and channels of deception on facebook.

- **H3a: Openness to Experience is positively related to deviation from reality.**

- **H3b: Extraversion is negatively related to deviation from reality.**

- **H3c: Emotionality is positively related to deviation from reality.**

- **H3d: Conscientiousness and Agreeableness are negatively related to deviation from reality.**

- **H3e: Humility is positively related to deviation from reality.**

In order to test these hypotheses, an online questionnaire was used. It contained questions about the self-presentational behaviour on facebook. Thereby, the respondents were asked to also give estimates about others' behaviour. Finally, the respondents filled in a personality questionnaire.

Method

Design and Participants

For this study a cross-sectional questionnaire-survey design was employed in order to get information about the prevalence of deceptive impression management on facebook and how this is taking place as well as for the relationship with the different personality traits.

The participants were approached via the distribution of a web link per e-mail. Condition to participate was to have a facebook account and to be older than 18 years. They have been recruited through the broadened personal network of the researcher as well as via the test-person system for psychology students of the University of Twente.

In total, 113 participants took part in the study but some of them were excluded because they didn`t finish the questionnaire or needed less than 5 minutes to fill it in. The final sample consisted of ($N = 94$) respondents, 29 men and 65 women with a middle age of ($M = 23,37$; $SD = 4,83$) years ranging from 18 to 57. 22 of the participants were Dutch, 46 German, 23 Italian and 3 from other Western-European countries.

Material

For this study an online-questionnaire was used, containing a total amount of 68 items, organized in eight blocks. These included the informed consent, personal data, questions about the own facebook use, questions about others' facebook use, items self-admission about deception on facebook, items for a prevalence estimate about others' deceptive behaviour and items for personality measurement.   The questionnaire begins with the collection of personal data like age, sex and nationality. This section is followed by a section about the general usage of facebook including questions about the time and frequency per day and the approximate amount of friends on the social platform. The categories for the time per day were partially based on earlier research (Ellison, Steinfeld, & Lampe, 2007). It was found a mean usage of 10-30 minutes per day, but the categories used in this investigation were acted on the assumption of higher mean usage. Since the findings of

Ellison, Steinfeld and Lampe were from 2007 and thus relatively old and facebook a relatively young technology, founded in 2004, it is assumed that the mean usage in 2016 would be higher than in the early years of the social networking site. The increasing possibilities to use facebook on mobile devices and steadily increasing number of users support these assumptions, which have also been confirmed by exploratory interviews on the campus of the University of Twente and the city centres of Enschede (Netherlands) and Hamburg (Germany). Based on these findings the mean category was set at *"between one and two hours"* per day. Then, the participants were asked about their frequency of facebook use, ranging from *"several times per day"* to *"every few weeks or less"*. These categories are also based on earlier findings (Lenhart & Madden, 2007). This block about quantitative properties of facebook user behaviour is followed by a block about more qualitative properties directed at the activities users engage in, while using facebook.

First, the participants were asked how much time they spend for different activities, having to fill in a 5-point Likert Scale from *"very little time"* to *"very much time"*. The activities were selected from a list of activities based on preceding research (Pempek, Yermolayeva, & Calvert, 2009). The selection criteria were the most frequently used activities and highest usability for self-presentational behaviour like *"selecting and editing photos for the upload"* and *"writing posts"*. There were two categories added in order to cloud the main issue of the investigation *"playing games"* and *"information seeking"*, which are not seen to be related to self-impression management. Then, participants had to evaluate the importance of the impression they could make on others while engaging in these activities, ranging from *"very unimportant"* to *"very important"* on a 7-point Likert-Scale. This section about activities and importance of impression on others is repeated, with the only difference that the participants had to make estimations about the user-behaviour of others. This is a common technique to get information about bigger populations and to avoid socially desired answers. With this method a prevalence estimate for sensitive contents can be made (John, Loewenstein, & Prelec, 2012).

After that, the respondents were asked to give information about the deviation from reality and the truthfulness of their and others' contributions on facebook. They were for example asked to evaluate some statements like *"When posting something on facebook, I conceal information that*

would not be beneficial for my self-presentation", ranging from *"Never"* to *"Always"* on a 5-point Likert-Scale. In case of a different answer than *"Never",* they were asked to evaluate the closeness to reality, again on a 5-point Likert-Scale, ranging from *"Far away"* (1) to *"Close"* (5). Again, this section was repeated with the only difference of making statements about other users. After both of the blocks about the deviation from reality, the respondents were given an edited version from the Inclusion of Other in the Self Scale (IOS) (Aron, Aron, & Smollan, 1992) where they had to report the difference between their actual personality and their facebook profiles. Therefore they could choose between six images, each containing two circles, some of them closer, some of them farer away from each other. This item was repeated also for the others estimate.

In the last block, the participants were given the "Brief HEXACO Inventory" (BHI), a 24-item short version of traditional Hexaco personality questionnaires. It is assessed as a valid and reliable instrument and has an overall convergent correlation of .78 with the commonly used HEXACO-PI-R (de Vries, 2013). The questionnaire ended with the possibility to comment on the investigation in order to possibly improve further research. The full questionnaire can be found in the Appendix, it was written in Dutch and translated into English in order to be applicable for individuals coming from different nations.

Procedure

Before the participants could start with filling in the online-questionnaire, they were told about the goals and conditions of the investigation. They were thus informed that the survey is about their own and others' experiences about self-presentation on the social media platform facebook. Further they were informed that the research project was for a bachelor-thesis in psychology at the University of Twente. The participation was voluntary and respondents were allowed to stop whenever they wanted to. In addition to that the respondents were told about the anonymity, confidentiality and time to fill in the survey which was approximately 20 minutes. After accepting the conditions of the participation and confirming the usage of a facebook account, the participants could start to fill in the survey.

Results

Summary of facebook usage

The respondents reported to have a mean usage of facebook between "several times per day" and "once a day"($M = 1.29$, $SD = 0.68$) thereby spending time between 30 minutes and one hour per day, Italian users had a mean use between one and two hours per day. The mean number of facebook friends was 514 ($SD = 401$). Table 1 summarizes the quantitative characteristics of facebook use split up for gender and nationality.

Table 1. *Descriptive Characteristics of Facebook Use*

Groups	N	How often do you use facebook?[a]		How much time do you spend in average per day on facebook?[a]		How many friends do you approximately have on facebook?	
		M	*SD*	*M*	*SD*	*M*	*SD*
Men	29	1.41	0.87	1.66	0.90	537	538
Women	65	1.23	0.58	1.95	1.15	504	325
Dutch	46	1.05	0.21	1.64	0.79	464	219
Italian	23	1.22	0.42	2.52	1.44	782	637
German	22	1.46	0.89	1.57	0.72	420	256
Spanish	2	1.00	0.00	2.00	1.41	475	460
Other	1	1.00	-	5.00	-	155	-
Total	94	1.29	0.68	1.86	1.10	514	401

a. answers were given on a 5-point Likert-scale ranging from "very little time" (1) to "very much time"(5)

Prevalence analysis revealed that deceptive self-presentational behaviour does exist on facebook. As shown in table 2, 64,4% of the participants reported to describe themselves in a way that

is not a totally precise description of their actual personality, but 97,8% estimated that others would do that. 38,7% of the respondents reported to write comments on facebook that do not represent precisely their actual opinions and 94,7% think, others would do so. The admission rate for concealing non-beneficial information is at 73,3%, the others-estimate for concealing information is at 97,9%. Finally, 66% of the respondents reported to lie about their emotional state and 98,9% of the respondents estimated that others would do so. The percentages in these results refer to responses that did not include the answer "never". These findings support the notion that people tend to lie about themselves on facebook, H1 is thus supported.

Table 2. *Prevalence of Deceptive Behaviour*

Misleading behaviour	Self-rate	Others estimate
Self-presentation	64.4 %	97.8%
Opinion	38.7%	94.7%
Concealing information	73.3%	97.9%
Emotional state	66.0%	98.9%

The percentage values refer to the prevalence of not reporting "never"

Inferential analyses

Self-admission and others-estimate

The tendency that the estimates about others are significantly higher than the self-admission rates is also revealed by the IOS-scales and the mean distance from reality. The higher the values at the IOS scale were, the closer were the two circles symbolizing oneself and the facebook profile. A one-sample t-test revealed that there was a significant difference between self ($M = 4.42$) and others estimate for the IOS $t(92) = 25.42, p < .001$ as can be seen in table 3. For the distance from reality, an overall mean score was calculated for the four different categories. A t-test comparing self-admission and others-estimate revealed that there is a significant difference between the two groups $t(92) =$

31.34, p < .001, as can also be found in table 3. The data supports H2, revealing that the respondents had the tendency to evaluate other's facebook behaviour as more deceptive than the own behaviour.

Table 3. *One-Sample t-Test for Self-Admission and Others Estimate*

	Self-rate		others estimate				Sig. (2-tailed)
	M	*SD*	*M*	*SD*	*t*	*df*	
IOS	4.42	1.68	3.49	1.34	25.42	92	.000
Reality	3.80	0.98	2.76	0.85	31.34	92	.000

Personality and deviation from reality

To evaluate the relationship between the different personality traits and the deviation from reality for both self-admission and others-estimate a linear regression analysis has been employed, the results are summarized in table 4. The analysis revealed that Openness to experience is a significant predictor for the deviation from reality at self-admissions, $B = -.11$, $t(91) = 2.75$, $p = .007$. That means that individuals who score higher on Openness to experience present themselves on facebook in deviates more from reality than individuals who score low on Openness to experience. For the other personality traits, no relations have been found, except from Extraversion, which shows a trend, $B = .09$, $t(91) = 1.84$, $p = 0.069$. This shows that extravert individuals tend to have more exact representations of themselves on facebook than individuals that score low on this scale. The findings support the first part of H3, showing that personality is related to the deviation from reality when presenting oneself on facebook, especially Openness to Experience and Introversion (which is the opposite end of the Extraversion-scale) seem to be predictors. H3a and H3b, stating that Openness to Experience and Extraversion are related to deviation from reality are thus supported. The results concerning H3b are not significant but still show a trend. For H3c-H3e no support has been found.

The picture changes for the other-estimates. Here the personality dimension of Honesty-

Humility reveals to be a significant predictor, $B = .08$, $t(91)$ t = 2.08, $p = .041$, suggesting that individuals that have high Humility scores, estimate others to stay close to reality when presenting themselves on facebook. No significant relations were found for the other personality traits. Relations between personality and the reports on the IOS-scales have not been found for self-reports. The IOS-estimate for others though has shown that the trait Openness to Experience is a significant predictor, $B = .17$, $t(91) = 2.04$, $p = .044$, to estimate the two circles closer together for others, which can also be found in table 4.

Table 4. *Multivariate Regression with Deviation from Reality as Dependent Variable*

| | Deviation from Reality | | | | | | | | | | | |
| | Self-admission | | | Others-estimate | | | IOS | | | Others-IOS | | |
Personality	*B*	*t*	*p*	*B*	*t*	*p*	*B*	*t*	*p*	*B*	*t*	*p*
Honesty-Humility	.02	0.44	.660	.08	2.08	.041	.13	1.68	.096	.11	1.77	.081
Emotionality	.03	0.77	.445	.04	1.14	.259	-.03	-0.40	.688	-.06	-1.07	.287
Extraversion	.09	1.84	.069	-.02	-0.53	.599	-.04	0.56	.578	-.05	-0.75	.457
Agreeableness	.03	0.68	.496	-.04	-1.24	.217	-.10	-1.38	.171	.03	0.47	.639
Conscientiousness	.04	0.85	.400	-.01	-0.25	.805	-.03	0.40	.693	-.07	-1.15	.255
Openness to Experience	-.11	-2.75	.007	-.02	-5.00	.62	.07	0.99	.326	.17	2.04	.044

Personality and channels of deception

Finally, the second part of H3 tested, where it was hypothesized that personality has an influence on the channels of deception. Therefore, a linear regression analysis has been employed with the different personality traits as predictors and the channels for deceptive behaviour as dependent variables, which are summarized in table 5. The first of these channels refers to the statement that the facebook profile is not a precise representation of the own personality. Here, no personality trait has been found to be related to this channel, only Openness to Experience shows a trend to be a predictor, $B = .08$, $t(91) = 1.87$, $p = .065$. The second channel refers to the notion of writing comments that do not represent the actual meaning of the individual. As already mentioned in the descriptive analysis (table 1), this is the channel with the lowest prevalence of deceptive behaviour according to self-admission rates (38,7%). For this channel, no personality trait has been found to be a significant predictor. The third channel is about concealing non-beneficial information, the channel with the highest prevalence in self-admission (73,3%; table 1). For this channel, no significant relations with personality were found. The last channel refers to the presentation on facebook in a way that does not represent precisely the actual emotional state. For this channel, an overall significant regression has been found, $F(6, 91) = 2.31$, $p = .041$, with Openness to Experience, $B = 2.47$, $t(91) = 2.47$, $p = .016$, and Conscientiousness, $B = -.18$, $t(91) = -2.31$, $p = .023$, as significant predictors. Individuals high on Openness to Experience have thus the tendency to lie about their actual emotional state. Conscientiousness here is negatively related, which means that individuals who score high on this trait are less likable to deceive about their emotional state.

Summarized, H3 is supported by the data, revealing that the traits Openness to Experience and Extraversion are related to the deviation from reality when presenting themselves on facebook and the traits Openness to Experience and Conscientiousness are related to the channels of deception.

Table 5. *Relation Between Personality and Channels of Deception*

	Personality			Opinion			Concealing Information			Emotional state		
	B	Test value	*p*	*B*	Test value	*p*	*B*	Test value	*p*	*B*	Test value	*p*
Honesty-Humility[a]	.07	-1.49	.139	-.01	-0.23	.823	-.07	-1.28	.205	.01	0.10	.920
Emotionality[a]	.03	-0.72	.569	.03	0.86	.395	.04	0.80	.429	.04	0.69	.491
Extraversion[a]	-.03	-0.09	.713	-.06	-1.55	.125	.00	0.02	.983	.03	0.46	.648
Agreeableness[a]	.03	0.81	.422	-.04	-1.01	.318	.03	0.68	.498	.04	0.77	.445
Conscientiousness[a]	-.05	-1.10	.274	.00	-0.09	.930	-.08	-1.60	.113	-.18	-2.31	.023
Openness[a]	.08	1.87	.065	-.04	-1.14	.257	.00	0.07	.948	.12	2.47	.016
Overall Regression[b,c]	-	2.17	.054	-	1.46	.202	-	1.59	.161	-	2.31	.041

a. Testvalue: t; b Testvalue: F(6, 91); c. ANOVA with channel of deception as dependent variable and personality traits as predictors

Discussion

Interpretation of the findings

The results show that the majority of the facebook users does engage in deceptive self-impression management, leaving an image online that does not represent precisely their actual offline identities. Respondents admitted to deceive about themselves and estimated others to do so as well. Further it was found that personality is a predictor of deceptive behaviour on facebook.

The self-admission rates for deception have been much lower than the estimates about others, this might be because the admission of deception is a sensitive topic and not socially desirable. But still the self-admission rates are relatively high, except for one statement. This was about to leave comments that do not represent precisely one's actual opinion. As this would be a very active manner of deceiving it is not surprising that this channel has the lowest prevalence. The other channels with very high admission rates are not seen as that strongly deceptive because they are related to a more passive way of deceiving called selective self-presentation as it is discussed in the chapter about deceptive self-presentation in online environments (Walther, 1996). Those channels of deception mostly have a true core which might be based on a real photo or on a real activity. These contents can then be edited or presented in the desired light. The admission of writing comments that are different to one's actual opinion seems to be even more socially undesired in this case. The respondents were very unlikely to admit such a behaviour. The others estimate about this channel however shows that the prevalence of this type of deception seems to be very high.

For the results that the others estimates are very high and almost reaching the 100% mark, it is mentionable that the others-estimate does not necessarily give a prevalence estimate. It is also possible that the respondents thought about individuals from their group which might show some type of extreme behaviour instead of making statements over general tendencies. This might lead to a ceiling effect for the others-estimates, which would also be a possible explanation for the very high percentages. Here, further research is recommended with true prevalence estimates, giving the respondents the opportunity to report percentage estimates about deceptive behaviour. However, the self-admission rates in this study are not prone to this problem and are thus regarded as a valid measurement.

The results showed that individuals that have high scores in Openness to Experience tend to present themselves in a way that deviates more from reality than individuals that score low on this scale. These results broaden earlier findings, which have shown that sensation seeking is related to deception in chatting (Lu, 2008). As discussed above, Openness to Experience and Sensation Seeking are strongly related to each other (Aluja, García, & García, 2003). The tendency to deceive for these individuals can be explained through the unique characteristics and opportunities of computer-mediated communication which differ strongly from offline communication (Toma, Hancock, & Ellison, 2008; Rosen, 2012; Walther, 1996). It is assumed that individuals high in Openness to Experience see the internet as a "high-tech adventure" serving to satisfy the psychological needs like arousal, stimulation and unconventionality (Lu, 2008). It is thus not surprising that this trait seems to be related to deceptive self- impression management on facebook.

Also the relation between Extraversion and honesty, showing that extraverts are more honest about themselves on facebook could be replicated from earlier findings (Michikyan, Subrahmanyam, & Dennis, 2014). Extraverts tend to be more honest in their self-presentations on facebook. As already discussed, this may be because extravert individuals tend to find offline relationships more rewarding and see their online communication just as an extension to their offline contacts (Michikyan, Subrahmanyam, & Dennis, 2014). This notion might prevent extraverts from deceiving online because they tend to have a lot of contact offline as well, where deceptions on facebook could be uncovered easily. Further, extraverts are regarded as more attractive than individuals from other personality dimensions (except from Agreeableness) (Meier, Robinson, Carter, & Hinsz, 2010) and thus might have less necessity to enhance their self-presentations. Here, again it is not surprising that Extraversion seems to be related to deception on facebook.

The findings that Neuroticism is a predictor for deceiving (Michikyan, Subrahmanyam, & Dennis, 2014) on the other hand could not be replicated. It was found that Emotionality is not related to the deviation from reality. The reason for that could be that Emotionality and Neuroticism refer to slightly different constructs. Another surprising finding is that high scorers on the Humility scale see others as very honest on the deviation from reality scale. It was expected that those individuals would describe themselves as dishonest and project these tendencies on others. It seems possible that this

scale would be vulnerable to social desirability which however has been disconfirmed by research, showing that the Honesty-Humility scale is a valid instrument (Ashton, Lee, & de Vries, 2014). However, the items of the Honesty-Humility scale refer to real-life settings, not to virtual environments. This could explain the surprising results that this trait is not related to any of the investigated constructs or just in an unexpected way.

The results show that a relationship between personality and the channels of deception exists. It was found that two of the suggested four channels are related to personality. Here, Openness to Experience is the most important predictor for admitting deception about one's personality and emotional state. Conscientious individuals were found to be most honest about the emotional state. It is not surprising that conscientious individuals which are known as accurate and precise seem to be the most honest ones via at least one channel. The general dishonesty about the emotional state which has high prevalence rates is not surprising. Facebook profiles are accessible to many people whereof the majority does not count to the intimate circle of friends and familiars. It seems thus natural that the users do not always publish their emotional conditions when they find themselves in a bad mood, are sad or depressed. Here, social desirability seems to play a role in order to present oneself as a happy person. However, further research is needed in order to find out which are the main motivations to deceive on facebook. Investigations on this topic should not only be referred to the emotional state but in general to self-enhancement online. The other channels on facebook in turn are not related to personality.

Strengths, Limitations and Implications

This research project has been applied via an online survey. Like all online surveys, this survey was vulnerable to the problem of many factors that cannot be controlled like the circumstances under which the participants filled in the questionnaire (Treiblmaier, 2011). Possible distractions from other people around, noise on the street or comprehension problems are not controllable. Further, as it is a sensitive topic, it is possible to have a social desirability bias in the findings. Further research which includes a comparison between self-admission questionnaires and real facebook profiles is therefore recommended like it is done in earlier research (Mehdizadeh, 2010). The replication of earlier findings (Michikyan, Subrahmanyan, & Dennis; Lu, 2008) however can be seen as an

indication for the external validity of the survey. As already mentioned, the others-estimates could be replaced through prevalence estimates where respondents can report percentages. However, the used variables show a clear tendency that deceptive self-presentational behaviour is a very prevalent phenomenon in the facebook community. This study aims to measure the relation between personality and deceptive behaviour. But in fact, the measured constructs are the admission rates. The high percentages for the others-estimates indicate that almost everyone on facebook might engage in deception. Thus, it can be assumed that the results show, who admits deception, not who engages in deception. However the high self-admission rates can be seen as a strength of this study, showing that social desirability did not affect the results strongly.

The findings can be of great importance with regard to well-being, especially among adolescents. Research has shown that facebook use is strongly related to well-being in a way that individuals who spend much time at observing other people's profiles have lower self-esteem and lower degrees of well-being (Frison & Eggermont, 2015; Valkenburg, Peter, & Schouten, 2006). It is assumed that adolescents who see the "perfect lives" of others might regard their own lives as less worthwhile. Preventive informational interventions at high schools could use the findings from this study, showing that reality and facebook are two different things. It could help adolescents to get a more reflective and differentiated view on the things they see while surfing on facebook.

Conclusion

This exploratory study has led to new findings about a topic that has been targeted very little. Deceptive self-presentational behaviour is a very common phenomenon on facebook. The current research has led to new findings showing that deceptive self-presentational behaviour on facebook has a high prevalence and that personality is related to the degree of deceiving and the channels that are used for that purpose. Openness to experience is negatively related to honesty at self-presentations on facebook. For Extraversion a trend was found, assuming that extraverts are the most honest. Further, Openness to experience is related to deception about the presentation of the own personality and the information about one's emotional state. Conscientious individuals revealed to be most honest about

their emotional states. Since facebook has become one of the most important communication media, there was a big gap and necessity to investigate about its' characteristics. However it is recommended to continue investigating about facebook and its' social impact. This study changes the light in which facebook can be seen.

Acknowledgments

I would like to thank Dr. Marielle Stel for her insightful support and guiding advice. Her trust in my work and her Openness for new topics have encouraged me throughout the whole writing and thinking process. Further I would like to thank Dr. Marco van Bommel for his precise feedback and creative input for improvements.

References

Allfacebook.de(2015): *Börsenbericht: Die ersten offiziellen Facebook Nutzerzahlen im Jahr 2015.* Retrieved at 20.06.2016 from: http://allfacebook.de/zahlen_fakten/facebook-nutzerzahlen-2015

Aluja, A., García, Ó., & García, L. F. (2003). Relationships among extraversion, openness to experience, and sensation seeking. *Personality and Individual Differences*, *35*(3), 671-680.

Aron, A., Aron, E. N., & Smollan, D. (1992). Inclusion of other in the self scale and the structure of interpersonal closeness. *Journal of personality and social psychology*, *63*(4), 596.

Ashton, M. C., & Lee, K. (2007). Empirical, theoretical, and practical advantages of the HEXACO model of personality structure. *Personality and Social Psychology Review*, *11*(2), 150-166.

Ashton, M. C., Lee, K., & de Vries, R. E. (2014). The HEXACO Honesty-Humility, agreeableness, and emotionality factors, a review of research and theory. *Personality and Social Psychology Review*, *18*(2), 139-152.

Belsey, B. (2005). Cyberbullying: An emerging threat to the "always on" generation. *Recuperado el*, *5*.

DePaulo, B. M., Lindsay, J. J., Malone, B. E., Muhlenbruck, L., Charlton, K., & Cooper, H. (2003). Cues to deception. *Psychological bulletin*, *129*(1), 74.

de Vries, R. E. (2013). The 24-item brief HEXACO inventory (BHI). *Journal of Research in Personality*, *47*(6), 871-880.

Digman, J. M. (1997). Higher-order factors of the Big Five. *Journal of personality and social psychology*, *73*(6), 1246.

Ekman, P. (2009). *Telling Lies: Clues to deceit in the marketplace, politics, and marriage (Revised Edition)*. WW Norton & Company.

Ellison, N., Heino, R., & Gibbs, J. (2006). Managing impressions online: Self-presentation processes in the online dating environment. *Journal of Computer-Mediated Communication*, *11*(2), 415-441.

Ellison, N. B., Steinfield, C. and Lampe, C. (2007), The benefits of facebook "friends": social capital and college students' use of online social network sites. *Journal of Computer-Mediated Communication*, 12: 1143–1168.

Feldman, R. S., Forrest, J. A., & Happ, B. R. (2002). Self-presentation and verbal deception: Do self-presenters lie more?. *Basic and applied social psychology*, *24*(2), 163-170.

Fisher, R. J. (1993). Social desirability bias and the validity of indirect questioning. *Journal of consumer research*, *20*(2), 303-315.

Frison, E., & Eggermont, S. (2015). Toward an integrated and differential approach to the relationships between loneliness, different types of facebook use, and adolescents' depressed mood. *Communication Research*. Advance online publication.

Goldberg, L. R. (1990). An alternative" description of personality": the big-five factor structure. *Journal of personality and social psychology*, *59*(6), 1216.

Goldberg, L. R. (1993). The structure of phenotypic personality traits. *American psychologist*, *48*(1), 26.

Hancock, J. T., Curry, L. E., Goorha, S., & Woodworth, M. (2007). On lying and being lied to: A linguistic analysis of deception in computer-mediated communication. *Discourse Processes*, *45*(1), 1-23.

John, L. K., Loewenstein, G., & Prelec, D. (2012). Measuring the prevalence of questionable research practices with incentives for truth telling. *Psychological science*, *23(5),* 524-32.

Jones, E. E., & Pittman, T. S. (1982). Toward a general theory of strategic self-presentation. *Psychological perspectives on the self*, *1*, 231-262.

Krämer, N. C., & Winter, S. (2008). Impression management 2.0: The relationship of self-esteem, extraversion, self-efficacy, and self-presentation within social networking sites. *Journal of Media Psychology*, *20*(3), 106-116.

Lenhart, A. & Madden, M. (2007). *Social Networking Websites and Teens: An Overview.* Retrieved at 11.04.2016 from: http://htlab.psy.unipd.it/uploads/Pdf/lectures/technology_for_young/Social%20Networking%20Websites%20and%20Teens%20text.pdf

Lewis, M. A., & Neighbors, C. (2005). Self-determination and the use of self-presentation strategies. *The Journal of Social Psychology*, *145*(4), 469-490.

Lu, H. Y. (2008). Sensation-seeking, internet dependency, and online interpersonal deception. *CyberPsychology & Behavior*, *11*(2), 227-231.

Meier, B. P., Robinson, M. D., Carter, M. S., & Hinsz, V. B. (2010). Are sociable people more beautiful? A zero-acquaintance analysis of agreeableness, extraversion, and attractiveness. *Journal of Research in Personality*, *44*(2), 293-296.

Mehdizadeh, S. (2010). Self-presentation 2.0: Narcissism and self-esteem on facebook. *Cyberpsychology, behavior, and social networking*, *13*(4), 357-364.

Michikyan, M., Subrahmanyam, K., & Dennis, J. (2014). Can you tell who I am? Neuroticism, extraversion, and online self-presentation among young adults. *Computers in Human Behavior*, *33*, 179-183.

Mummendey, H. D., & Bolten, H. G. (1993). Die Impression-Management-Theorie. *Theorien der Sozialpsychologie*, *3*. 57-77.

Oyserman, D. (2001). Self-concept and identity. In A. Tesser & N. Schwarz, The Blackwell Handbook of Social Psychology (pp. 499-517). Malden, MA: Blackwell.

Pempek, T. A., Yermolayeva, Y. A., & Calvert, S. L. (2009). College students' social networking experiences on fFacebook. *Journal of applied developmental psychology*, *30*(3), 227-238.

Statistisches Bundesamt (2016). *Ausstattung privater Haushalte mit Informations- und Kommunikationstechnik – Deutschland.* Retrieved at 24.02.2016 from:

https://www.destatis.de/DE/ZahlenFakten/GesellschaftStaat/EinkommenKonsumLebensbedingungen/AusstattungGebrauchsguetern/Tabellen/Infotechnik_D.html

Statistisches Bundesamt (2016). *IT-Nutzung. Private Nutzung von Informations- und Kommunikationstechnologien.* Retrieved at 24.02.2016 from:

https://www.destatis.de/DE/ZahlenFakten/GesellschaftStaat/EinkommenKonsumLebensbedingungen/ITNutzung/Tabellen/NutzungInternetPrivZweckeAlter_IKT.html

ten Brinke, L., & Porter, S.. (2012). Cry Me a River: Identifying the behavioral consequences of extremely high-stakes interpersonal deception. *Law and Human Behavior*, *36*(6), 469–477.

Toma, C. L., Hancock, J. T., & Ellison, N. B. (2008). Separating fact from fiction: An examination of deceptive self-presentation in online dating profiles. *Personality and Social Psychology Bulletin*, *34*(8), 1023-1036.

Treiblmaier, P. D. H. (2011). Datenqualität und Validität bei Online-Befragungen. *der markt*, *50*(1), 3-18.

Valkenburg, P. M., Peter, J., & Schouten, A. P. (2006). Friend networking sites and their relationship to adolescents' well-being and social self-esteem. *CyberPsychology & Behavior*, *9*(5), 584-590.

Walther, J. B. (1996). Computer-mediated communication impersonal, interpersonal, and hyperpersonal interaction. *Communication research*, *23*(1), 3-43.

Wang, S. S., Moon, S. I., Kwon, K. H., Evans, C. A., & Stefanone, M. A. (2010). Face off: Implications of visual cues on initiating friendship on Facebook. *Computers in Human Behavior*, *26*(2), 226-234.

Wilson, R. E., Gosling, S. D., & Graham, L. T. (2012). A review of Facebook research in the social sciences. *Perspectives on psychological science*, *7*(3), 203-220.

Appendix

The questionnaire in Dutch and English is added in the appendix.

Introductie

<div align="center">

*** ENGLISH VERSION AVAILABLE!!! SELECT HERE!*** => =>

</div>

Introductie

Geachte heer/mevrouw,

Fijn dat u mee wilt doen aan het onderzoek over uw eigen ervaringen in verband met facebook. Dit is een onderzoek uitgevoerd voor een bacheloropdracht in psychologie op de Universiteit Twente. Doel van het onderzoek is het om erachter te komen hoe mensen zichzelf op facebook presenteren. De deelname aan dit onderzoek is helemaal vrijwillig en u kunt altijd stoppen als u zich niet op uw gemak zou voelen. Voorwaarde voor de deelname is, dat u facebook gebruikt. Er zijn geen juiste of foute antwoorden, het gaat om uw inschattingen en ervaringen die u heeft gemaakt bij het gebruiken van facebook. Verder wordt u ook gevraagd om inschattingen te geven over hoe anderen facebook gebruiken. Het onderzoek zal ongeveer 20 minuten duren en uw gegevens zullen helemaal anoniem en vertrouwelijk behandeld worden. Als u verder nog vragen heeft wordt u hartelijk uitgenodigd om contact op te nemen met de onderzoeker die u heeft benaderd. Voordat u begint, wordt u nog gevraagd om de toestemmingsverklaring te bevestigen. Hartelijk bedankt en veel plezier.

Toestemmingsverklaring

Ik verklaar op een voor mij duidelijke wijze te zijn ingelicht over de aard, methode en doel van het onderzoek. Ik weet dat de gegevens en resultaten van het onderzoek alleen <u>anoniem</u> en op groepsniveau an anderen bekend gemaakt zullen worden. Ik behoud me daarbij het recht voor om op elk moment zonder opgaaf van redenen mijn deelname aan dit onderzoek te beëindigen. Als u niet akkord gaat, dan sluit de scherm.

◯ Ik ga akkoord met de voorwaarden van het onderzoek.

Gebruikt u facebook?

◯ Ja, ik heb een facebook account.

◯ Nee, ik heb geen facebook account en neem dus niet deel aan het onderzoek

Persoonlijke Data

Wat is uw leeftijd?

[   ]

Wat is uw geslacht?

◯ man

◯ vrouw

Wat is uw nationaliteit?

[⌄]

Gebruik van facebook

Hoe vaak gebruikt u facebook?

○ meerdere keren per dag

○ een keer per dag

○ drie tot vijf dagen per week

○ alle paar weken

Hoeveel tijd besteed u gemiddeld per dag voor facebook?

○ 30 minuten of minder

○ tussen 30 minuten en één uur

○ tussen één en twee uren

○ tussen twee en drie uren

○ meer dan drie uren

Hoe veel vrienden heeft u ongeveer op facebook?

Activiteiten op facebook

Als u op facebook zit, hoeveel tijd ben je dan met volgende activiteiten bezig?

	heel weinig tijd	weinig tijd	gemiddeld	veel tijd	heel veel tijd
Aanpassen van het eigen profiel	○	○	○	○	○
Bekijken van profielen van vrienden	○	○	○	○	○
Chatten	○	○	○	○	○
Informatie zoeken	○	○	○	○	○
foto's en video's kijken	○	○	○	○	○
spelletjes spelen	○	○	○	○	○
door de eigen tijdlijn scrollen	○	○	○	○	○
reacties op berichten en foto's schrijven	○	○	○	○	○
Groepen bekijken	○	○	○	○	○
Statusupdates plaatsen	○	○	○	○	○
Foto's selecteren voor de upload	○	○	○	○	○
Foto's verbeteren/bewerken voor de upload	○	○	○	○	○

anders, namelijk:

heel weinig tijd	weinig tijd	gemiddeld	veel tijd	heel veel tijd
○	○	○	○	○

Stel, dat u met de volgende activiteiten op facebook bezig bent:
Hoe belangrijk is voor u daarbij het beeld dat anderen op basis van deze activiteit over u kunnen verkrijgen?
Beweeg de slider.

	heel onbelangrijk		gemiddeld		heel belangrijk	
	1	2	3	4	5	6	7
Aanpassen van het eigen profiel							
Bekijken van profielen van anderen							
Chatten							
Posts opzetten							
Spelletjes spelen							
Reacties op berichten en foto's schrijven							
Foto's uploaden							
de eigen tijdlijn bekijken							

Die anderen op fb

Nu gaat het niet meer om uw persoonlijk gebruik van facebook maar om uw inschatting over andere gebruikers van facebook. Denk daarbij aan observaties of indrukken die u heeft gemaakt over kennissen.

Hoeveel tijd denkt u, dat anderen besteden aan de volgende activiteiten op facebook?

	heel weinig tijd	weinig tijd	gemiddeld	veel tijd	heel veel tijd
Aanpassen van het eigen profiel	○	○	○	○	○
Bekijken van profielen van vrienden	○	○	○	○	○
Chatten	○	○	○	○	○
Informatie zoeken	○	○	○	○	○
foto's en video's kijken	○	○	○	○	○
spelletjes spelen	○	○	○	○	○
door de pinwand scrollen	○	○	○	○	○
Reacties op berichten of foto's schrijven	○	○	○	○	○
Groepen bekijken	○	○	○	○	○
Statusupdates plaatsen	○	○	○	○	○

Foto's selecteren voor de upload	○	○	○	○	○
Foto's verbeteren/bewerken voor de upload	○	○	○	○	○

anders, namelijk:

heel weinig tijd	weinig tijd	gemiddeld	veel tijd	heel veel tijd
○	○	○	○	○

In hoeverre denkt u dat andere facebook gebruikers het beeld dat hun facebook vrienden van hen hebben belangrijk vinden bij de volgende activiteiten?
Beweeg de slider.

	heel onbelangrijk			gemiddeld		heel belangrijk	
	1	2	3	4	5	6	7
Aanpassen van het eigen profiel							
Bekijken van profielen van anderen							
Chatten							
Statusupdates plaatsen							
Spelletjes spelen							
Reacties op berichten en foto's schrijven							
Foto's uploaden							
de eigen tijdlijn bekijken							

Self-admission

Doel van dit onderdeel is om erachter te komen hoe eerlijk zich mensen op facebook zelf presenteren, met andere woorden, hoe dicht het beeld dat mensen op facebook achterlaten bij de realiteit ligt.

Vanaf nu gaat het weer om uw eigen gebruik van facebook. Er volgen sommige stellingen, waarbij u gevraagd

wordt om aan te geven of ze voor u van toepassing zijn of niet.

Op facebook beschrijf ik mezelf op een manier die niet precies overeenkomt met mijn daadwerkelijke persoonlijkheid.

Nooit	Zelden	Soms	Vaak	Altijd
○	○	○	○	○

Hoe ver is deze beschrijving dan van de realiteit?

Ver				Dichtbij
○	○	○	○	○

Ik schrijf reacties op facebook op een manier die geen helemaal nauwkeurige weergave van mijn daadwerkelijke mening zijn.

Nooit	Zelden	Soms	Vaak	Altijd
○	○	○	○	○

Hoe ver is deze beschrijving dan van de realiteit?

Ver				Dichtbij
○	○	○	○	○

Bij berichten op facebook houd ik wel informatie achter die voor mijn zelf-presentatie niet voordelig zou zijn.

Nooit	Zelden	Soms	Vaak	Altijd
○	○	○	○	○

In hoeverre wordt daardoor het beeld veranderd dat u achterlaat?

Sterk				Zwak
○	○	○	○	○

Ik presenteer mezelf op facebook op een manier die mijn daadwerkelijke gemoedstoestand niet precies weergeeft.

Nooit	Zelden	Soms	Vaak	Altijd
○	○	○	○	○

Hoe ver is deze beschrijving dan van de realiteit?

Ver				Dichtbij
○	○	○	○	○
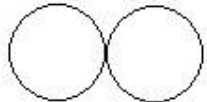
Hieronder staan zes afbeeldingen, elk met twee cirkels erin. Stel je voor dat jij 1 van de cirkels bent, en dat de andere cirkel staat voor de persoon die je op facebook bent. De afbeeldingen verschillen in hoe nabij of veraf de cirkels tot elkaar staan. Geef aan, door en van de zes afbeeldingen te kiezen, hoe nabij of veraf je je voelt tot jezelf op facebook. Denk niet lang na, ga op je gevoel af.

○
1

○

○
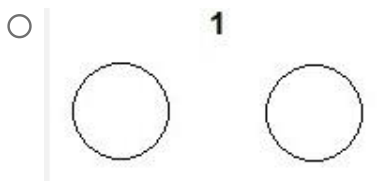
2

○   **3**

○
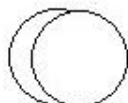
4

○

5

○

6

others

Vanaf nu gaat het weer om het gebruik van andere facebook gebruikers. Er volgen weer sommige stellingen.

Volgens mij beschrijven zich andere facebook gebruikers op een manier die niet precies overeenkomt met hun daadwerkelijke persoonlijkheden.

Nooit	Zelden	Soms	Vaak	Altijd
○	○	○	○	○

Hoe ver zijn deze beschrijvingen dan van de realiteit?

Ver				Dichtbij
○	○	○	○	○

Volgens mij schrijven andere facebook gebruikers kommentaren op een manier die geen helemaal nauwkeurige weergave van hun daadwerkelijke meningen zijn.

Nooit	Zelden	Soms	Vaak	Altijd
○	○	○	○	○

Hoe ver is deze beschrijving dan van de realiteit?

Ver				Dichtbij
○	○	○	○	○

Bij berichten op facebook houden anderen wel informatie achter die voor hun zelf-presentaties niet voordelig zou zijn.

Nooit	Zelden	Soms	Vaak	Altijd
○	○	○	○	○

In hoeverre wordt daardoor het beeld verandert dat ze achterlaten?

Sterk				Zwak
○	○	○	○	○

Anderen presenteren zichzelf op facebook op een manier die hun daadwerkelijke gemoedstoestand niet precies weergeeft.

Nooit	Zelden	Soms	Vaak	Altijd
○	○	○	○	○

Hoe ver is deze beschrijving dan van de realiteit?

Ver				Dichtbij
○	○	○	○	○

Hieronder staan weer zes afbeeldingen, elk met twee cirkels erin. Stel je voor dat andere facebook gebruikers 1 van de cirkels zijn, en dat de andere cirkel staat voor de anderen hoe ze zich op facebook presenteren. De afbeeldingen verschillen in hoe nabij of veraf de cirkels tot elkaar staan. Geef aan, door één van de zes afbeeldingen te kiezen, hoe nabij of veraf je de andere facebook gebruikers ziet tot hun presentaties op facebook. Denk niet lang na, ga op je gevoel af.

○ **1**

○ **2**

○ **3**

○ **4**

○ **5**

○
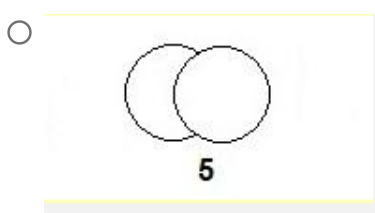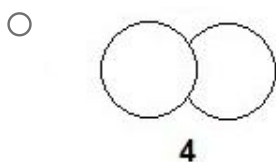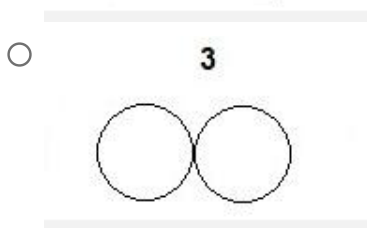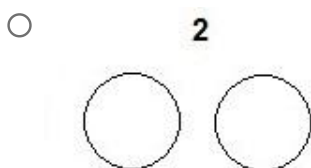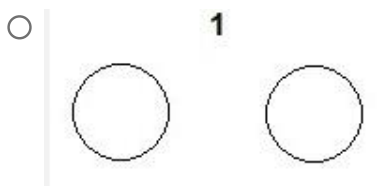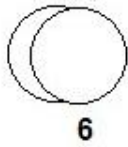
Personaliteit

Nu is het bijna voldaan. Er volgen nog 24 stellingen over uzelf, waarbij u gevraagd wordt om aan te geven in hoeverre ze voor uw persoonlijkheid van toepassing zijn.

Click to write the question text

	klopt helemaal niet	klopt eerder niet	noch... noch	klopt eerder	klopt helemaal
Ik kan lang naar een schilderij kijken	○	○	○	○	○
Ik zorg dat dingen altijd op de juiste plek liggen	○	○	○	○	○
Ik blijf onaardig tegen iemand die gemeen was.	○	○	○	○	○
Niemand wil graag met mij praten.	○	○	○	○	○
Ik ben bang om pijn te lijden.	○	○	○	○	○
Ik vind het moeilijk om te liegen.	○	○	○	○	○
Ik vind wetenschap saai.	○	○	○	○	○
Ik stel ingewikkelde taken zo lang mogelijk uit.	○	○	○	○	○
Ik geef vaak kritiek.	○	○	○	○	○
Ik leg gemakkelijk contact met vreemden.	○	○	○	○	○
Ik maak me minder zorgen dan anderen.	○	○	○	○	○
Ik ben benieuwd hoe je op een oneerlijke manier veel geld kan verdienen.	○	○	○	○	○
Ik heb veel fantasie.	○	○	○	○	○
Ik werk erg nauwkeurig.	○	○	○	○	○
Ik ben het snel met anderen eens.	○	○	○	○	○
Ik praat graag met anderen.	○	○	○	○	○
Ik kan prima in m'n eentje moeilijkheden overwinnen.	○	○	○	○	○
Ik wil graag beroemd zijn.	○	○	○	○	○
Ik houd van mensen met rare ideeën.	○	○	○	○	○
Ik doe vaak dingen zonder echt na te denken.	○	○	○	○	○
Zelfs als ik slecht behandeld word, blijf ik kalm.	○	○	○	○	○
Ik ben zelden opgewekt.	○	○	○	○	○
Ik moet huilen bij trieste of romantische films.	○	○	○	○	○
Ik heb recht op een speciale behandeling.	○	○	○	○	○

Afsluiting

Uw antwoorden zijn nu opgenomen en worden anoniem behandeld. Als u nog vragen of kommentaren over het onderzoek heeft, kunt u die hier opschrijven.

Als u interesse heeft aan de resultaten van het onderzoek, kunt u hier uw e-mail adres achterlaten. De rapportage zal dan naar u toegestuurd worden.

Hartelijk bedankt voor de deelname aan dit onderzoek.

English

Introductie

Introduction

Dear Sir or Madam,

Thank you for participating in this research about your own experiences on Facebook. This is research carried out for a bachelor thesis in psychology at the University of Twente. The aim of the research is to find out how people present themselves on Facebook. Participation in this study is completely voluntary and you can stop whenever you want to. Precondition for participation is that you use facebook. There are no right or wrong answers, it's about your estimates and experiences you made while using Facebook. Furthermore, you will be asked to provide estimates of how others use facebook. The study will take about 20 minutes and your details will be kept completely anonymous and confidential. If you have further questions, you are invited to contact the investigator that has contacted you. Before you begin, you will be asked to confirm the consent form. Thank you and have fun.

Informed consent

I declare to be clearly informed about the nature, method and purpose of the investigation. I know that the data and results of the study will only be disclosed to others anonymously and on group level. I reserve the right to terminate my participation in this study without giving a reason at any time.

○ I agree with the conditions of this research.

Do you use facebook?

○ Yes, I have a facebook account.

○ No, I do not have a facebook account and will thus not participate.

Persoonlijke Data

How old are you?

[   ]

Which is your sex?

○ man

○ woman

Which is your nationality

[▾]

Gebruik van facebook

How often do you use facebook?

○ Several times per day

○ Once a day

○ three to five days per week

○ every few weeks

How much time do you spend in average per day on facebook

○ 30 minutes or less

○ between 30 minutes and one hour

○ between one and two hours

○ between two and three hours

○ more than three hours

How many friends do you approximately have on facebook?

[   ]

Activiteiten op facebook

When you are on facebook, how much time do you spend for following activities?

	Very little time	little time	average	much time	very much time
Editing own profile	○	○	○	○	○
Watch my friends' profiles	○	○	○	○	○
Chatting	○	○	○	○	○
Searching information	○	○	○	○	○
Watching photos and videos	○	○	○	○	○
Playing games	○	○	○	○	○
Watching my facebook wall	○	○	○	○	○
Commenting on posts and photos	○	○	○	○	○
Watching groups	○	○	○	○	○
Writing posts	○	○	○	○	○
Selecting photos for the upload	○	○	○	○	○
Improving and editing photos for the upload	○	○	○	○	○

other:

[   ]

very little time	little time	average	much time	very much time
○	○	○	○	○

Imagine, your are engaging in one of the following activities on facebook: How important is the impression you might make on others for you, based on this activity?

Very unimportant		average		Very important	
1	2	3	4	5	6	7

Editing own profile					
Watching profiles of others					
Chatting					
Writing posts					
Playing games					
Commenting on photos or posts					
Uploading photos					
watching my own facebook wall					

Die anderen op fb

Now it is not anymore about your own usage of facebook, but about your estimation about of users of facebook. Therefore think about observations or impressions you have from friends.

How much time do you think, others spend on following activities on facebook?

	very little time	little time	average	much time	very much time
Editing own profile	○	○	○	○	○
Watching others' profiles	○	○	○	○	○
Chatting	○	○	○	○	○
Searching information	○	○	○	○	○
Watching photos and videos	○	○	○	○	○
Playing games	○	○	○	○	○
Watching their own facebook wall	○	○	○	○	○
Commenting on posts or photos	○	○	○	○	○
Watching groups	○	○	○	○	○
Writing posts	○	○	○	○	○
Selecting photos for the upload	○	○	○	○	○
Editing photos for the upload	○	○	○	○	○

other:

very little time	little time	average	much time	very much time
○	○	○	○	○

To which degree do you think that the impression other facebook users make on their facebook friends is important for them while engaging in the following activities? Move the slider.

	Very unimportant			average		very important	
	1	2	3	4	5	6	7
Editing own profile							
Watching profiles of others							
Chatting							
Writing posts							
Playing games							
Commenting on posts or photos							
Uploading photos							
watching their own facebook walls							

Self-admission

Now it is again about your own usage of facebook. Goal of this section is to find out how honest people present themselves on facebook, in other words, how close to reality the image is, people leave on facebook about themselves.

Think now about your own way of using facebook. Some statements are following and you will be asked if they are applicable to you or not.

I describe myself on facebook in a way that is not totally a precise description of my actual personality

Never	Rarely	Sometimes	Often	Always
○	○	○	○	○

How far is this description from reality?

Far away				Close
○	○	○	○	○

I write comments on facebook in a way that does not represent precisely my actual opinion.

Never	Rarely	Sometimes	Often	Always
○	○	○	○	○

How far is this description then from reality?

Far away				Close
○	○	○	○	○

While contributing something on facebook, I do conceal information that might not be beneficial for my self-presentation

Never	Rarely	Sometimes	Often	Always
○	○	○	○	○

How does this change the image you leave?

Strongly				Weakly
○	○	○	○	○

I present myself on facebook in a way that does not represent precisely my emotional state.

| Never	Rarely	Sometimes	Often	Always
○	○	○	○	○

How far is this description then from reality?

Far away				Close
○	○	○	○	○

There are following six images, each containing two circles. Imagine you are 1 of the circles and the other circle stands for the person you are on facebook. Indicate, by choosing one of the images, how close or far away you feel to yourself on facebook. Do not think to much about it, give the answer that first comes to your mind.

○ **1**

○ **2**

○ **3**

○ **4**

○

5

6
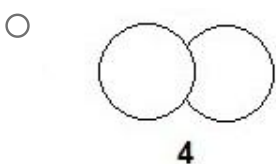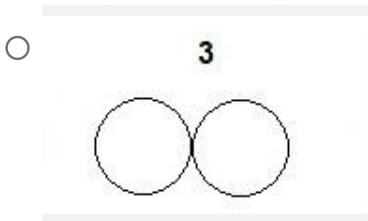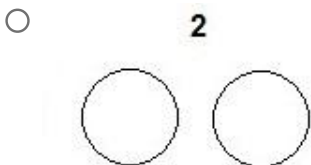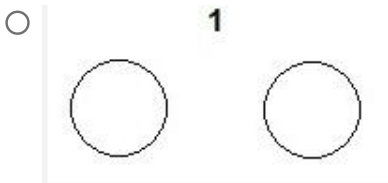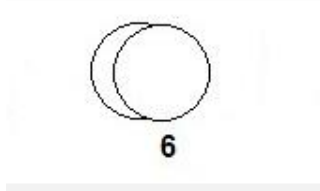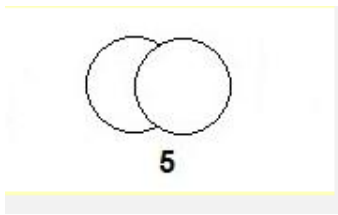
others

Now it is again about the behaviour of other facebook users. There are following some statements.

According to me, other facebook users describe themselves in a way that does not represent precisely their personality.

Never	Rarely	Sometimes	Often	Always
○	○	○	○	○

How far are these descriptions then from reality?

Far away				Close
○	○	○	○	○

According to me, other facebook users write comments in a way that does not represent precisely their actual opinions.

Never	Rarely	Sometimes	Often	Always
○	○	○	○	○

How far are these descriptions then from reality?

Far away				Close
○	○	○	○	○

In their contributions on facebook, others conceal information that would not be beneficial for themselves.

Never	Rarely	Sometimes	Often	Always
○	○	○	○	○

How does this change the image they leave?

Strongly				Weakly
○	○	○	○	○

Others present themselves on facebook in a way that does not represent precisely their actual emotional state.

Never	Rarely	Sometimes	Often	Always
○	○	○	○	○

How far is this description then from reality?

Far away				Close
○	○	○	○	○

There are again following six images, each containing two circles. Imagine other facebook users are 1 of the circles and the other circle stands for the person they are on facebook. Indicate, by choosing one of the images, how close or far away you see others to their identities on facebook. Do not think to much about it, give the answer that first comes to your mind.

○   **1**

○   **2**

○   **3**

○   **4**

○   **5**

○   **6**
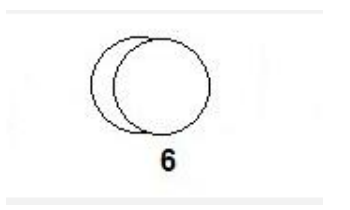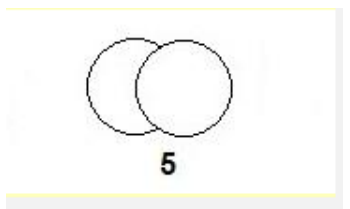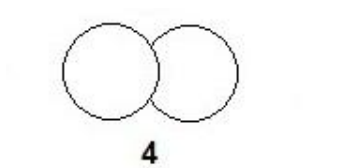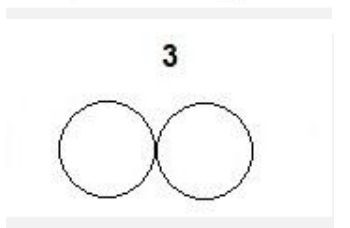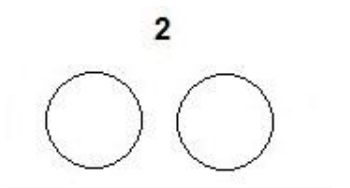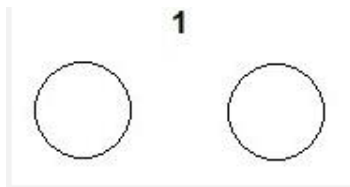
Personaliteit

Now you are almost done. There are 24 statements following which you are asked to evaluate in how far they are applicable to your personality.

	Disagree strongly	Disagree a little	Neither agree nor disagree	Agree a little	Agree strongly
I can look at a painting for a long time.	○	○	○	○	○
I make sure that things are in the right spot.	○	○	○	○	○
I remain unfriendly to someone					

who was mean to me.	○	○	○	○	○
Nobody likes talking with me.	○	○	○	○	○
I am afraid of feeling pain.	○	○	○	○	○
I find it difficult to lie.	○	○	○	○	○
I think science is boring.	○	○	○	○	○
I postpone complicated tasks as long as possible.	○	○	○	○	○
I often express criticism.	○	○	○	○	○
I easily approach strangers.	○	○	○	○	○
I worry less than others.	○	○	○	○	○
I would like to know how to make lots of money in a dishonest manner.	○	○	○	○	○
I have a lot of imagination.	○	○	○	○	○
I work very precisely.	○	○	○	○	○
I tend to quickly agree with others.	○	○	○	○	○
I like to talk with others.	○	○	○	○	○
I can easily overcome difficulties on my own.	○	○	○	○	○
I want to be famous.	○	○	○	○	○
I like people with strange ideas.	○	○	○	○	○
I often do things without really thinking.	○	○	○	○	○
Even when I'm treated badly, I remain calm.	○	○	○	○	○
I am seldom cheerful.	○	○	○	○	○
I have to cry during sad or romantic movies.	○	○	○	○	○
I am entitled to special treatment.	○	○	○	○	○

Afsluiting

Your responses are recorded and will be treated anonymously. If you have any questions or comments about this investigation, you are invited to write them down here.

If you are interested in the results of this investigation, you can write down your e-mail address here. The reports will then be sent to you.

Thank you very much for participating in this survey.