And the winner is: the differences in smile related facial expressions between winning and losing actors

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Abstract

Duchenne -or genuine- smiles have been a frequent topic of research, the current study implements this phenomenon into Oscar Award shows. It was expected people could determine whom the Oscar winner is, and they can detect whether a smile is genuine or not. Two perception tests were conducted where 31 participants viewed several fragments of winning or losing actors/actresses. In the first perception test their task was to identify in which of the two fragments the actor/actress won. Results show participants were indeed able to determine in which of the two fragments the actor/actress won. During the second perception test they had to assess how genuine the shown smile was. Their scores were compared with scores of the researchers and results show there were no significant differences between those scores, indicating the participants were able to detect whether a smile is genuine or not.

Keywords: Duchenne smile, non-Duchenne smile, Oscars, winning and losing, non-verbal behavior, facial expressions.

Introduction

"A Duchenne smile is spontaneous and beautiful. Then there are those poor, authentic smiles that always appear fake because they can't fight against those vats of Hollywood Botox and filler" (Brack, 2014). Every year the Oscars American award ceremony is hosted, honoring people involved in the film industry for cinematic achievements of the previous year. Five candidates are nominated for the award of each category. After the host announces the winner, the television camera zooms in to record the nominees' reaction, usually a smile. The present research investigates the variations of this smile in the cases of win and loss, as well as the ability of the audience to detect the genuineness of the smile.

According to Messinger, Foger and Dickson (1999) the smile is the outcome of flexing the facial muscles, in particular the contracting movement of the *zygomatic major* which causes the lift-up of the lips to the sides of the face. There are two types of smiles, the Duchenne and the non-Duchenne smile. The former is the so-called genuine smile. It involves the contraction of muscles which raise the cheeks around the eyes and causes crow's feet wrinkles, in contrast with the postured smile that derives from the contractions of the *orbicularis oculi* muscle located around the eyes (Williams, David, Loughland & Gordon, 2001). It is related to joyful moments (Messinger et al., 1999) and has smooth and more regular facial movements (Hess & Kleck, 1994) than smiles that are judged as less genuine. According to Ekman, Davidson and Friesen (1990) action units 6 (Cheek Raiser), 7 (Lid Tightener) and 12 (Lip Corner Puller) are used for showing a Duchenne smile. The latter, the non-genuine smile, is performed without contraction around the eyes or crow's feet wrinkles. According to Ekman et al. (1990) a non-Duchenne smile only shows action unit 6 (Cheek Raiser). In the meantime, the duration of the smile is also indicative of the emotional situation that lies behind it. According to Williams et al., (2001) the duration of the crow's feet wrinkles is longer in a Duchenne smile compared to a non-Duchenne smile (sad or neutral controlled expressions), thus causing a differentiation to their communicative role.

Results of the study of Ochts, Niewiadomski, Brunet and Pelachaud (2012) show the meaning of a smile varies depending on the characteristics of the performed facial expression. Thus, a Duchenne smile is usually considered as a genuine sign of amusement but also politeness (Messinger et al., 1999). On the contrary, a non-Duchenne smile is usually perceived as false and/or controlled and implies embarrassment, anxiety or other negative emotions (Ochts et al., 2012). In addition, Kraus and Chen (2013) claim a smile can be a significant predictor of a person's future emotional state. In particular, according to their study amongst high school students, participants who perform an intense contraction of the muscles (associated with a Duchenne smile) tend to report, years later, higher levels of well-being compared to those who perform a less intense smile.

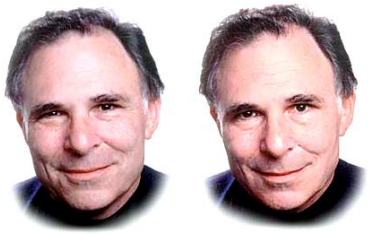

Figure 1. Duchenne versus non-Duchenne smile

When it comes to actors, Brack (2014) claims: *"Actors are like lawyers, we pay them to be convincing when necessary. When they are really convincing, we give them an Oscar."* In the same article psychologist Victoria Kasunic states that body language is not the only predictor to the sincerity of emotions; our own 'gut feeling' should also be employed to the detection of genuineness (Brack, 2014). In terms of smiling, Brack (2014) notices when losing the Oscar award, nominees usually display a non-Duchene smile, as a Duchenne smile is assumingly quite hard to fake.

Concerning the perception of the smile, Carroll and Russel (1997) notice people are able to detect the emotion of one another, because facial patterns are biologically theorized. Most of the research theories about Duchenne and

non-Duchenne smiles are based on facial expressions of amateurs. In particular, facial expressions are usually detected based on photographs of the participants. In their study, Carrol and Russel (1997) used four Hollywood films, all representing real life stories and noted for good acting, to detect facial expressions related to basic emotions evaluating moving images instead of photographs. The results of this research revealed professional actors performed a Duchenne smile at a rate of 74%.

Unlike previous research which has focused on the characteristics and meaning of Duchenne or non-Duchenne smiles in different contexts (Messinger et al., 1999; Brunet and Pelachaud, 2012; Ochts et al., 2012), the present study is investigating the ability of the participants to detect whether an actor/actress won or lost the Oscar award by looking at their smile.

Based on the aforementioned empirical findings concerning the difficulty to fake a Duchenne smile and the ability to recognize the genuineness of a smile employing biologically theorized facial patterns, two hypotheses are formed. Firstly, it is hypothesized that people are able to detect if an actor just won or just lost the Oscar award. Secondly, it is hypothesized that people are able to detect if an actor's smile is genuine or not.

Method

In order to understand whether an actor's/actress' smile related facial expression, associated with winning or losing an Oscar, could be attributed to a Duchenne smile, an experimental setting was designed and an experiment was conducted by the researchers. The purpose of the experiment was to test whether participants could analyze the subject's facial expressions, namely the genuineness of a smile, based on a short video clip. Moreover, it was tested whether the participants were able to detect if the subject was winning an Oscar, judging from his/her smile.

Participants

In total 31 participants participated in the study, between the ages of 22 and 35 (M= 26.1, SD= 3.6), from various nationalities. There were 14 men and 16 women and one participant chose not to indicate gender. The majority of the participants (26) had a Bachelor's degree or higher. The selection process used for acquiring participants was convenience sampling; respondents were chosen based on their convenience and availability. The aim of this study was explained to all the participants and they all consented to participate and to have their data analyzed for educational purposes.

Materials

In this research YouTube videos were used of multiple Oscar award shows (different years) that portrayed the announcement of the winner or loser of a particular award. Ten videos of male actors and ten videos of female actresses were used. The website savefrom.net was used to download the videos from YouTube, and with the help of an online converter, found at online-convert.com, the videos were converted into an editable format. The videos were edited with iMovie and Windows Media Maker in order to be shortened so only the initial reaction of the actor/actress was shown after the announcement of the winner; therefore the participant could not know if the particular actor/actress had won or lost.

Afterwards, Microsoft PowerPoint was used to crop the videos, so only the frame of the selected actor/actress remained. Microsoft PowerPoint was also used to make a presentation, which consisted of two perception tests the participants had to watch. This PowerPoint consisted of the cropped video fragments, which were numbered. This numeration corresponded with the hard copy questionnaire on which the participants had to fill in their answers (see Appendix 1). This questionnaire contained two parts, which corresponded with the two perception tests in the PowerPoint presentation. Before filling in the questionnaire, all participants had to sign a hard copy consent form in which they agreed to the terms of the experiment, see Appendix 2.

Participants watched the PowerPoint presentation on their own computers, privately. After the participants filled in their questionnaire, Microsoft Excel was used to rate how genuine the smiles shown in the video fragments were. Finally, SPSS was used to analyze the acquired data.

Design

In order to test the hypotheses, a within subjects design was conducted. All participants were shown video fragments from both conditions; namely the condition in which the actor/actress won the Oscar award and the other condition in which the actor/actress lost the Oscar award. In perception test 1 the independent variables were winning or losing an Oscar and the dependent variable non-verbal behavior (smile). In perception test 2 the independent variables were the genuineness of the smile and the dependent variable non-verbal behavior (smile).

Procedure

The experiment started with a brief explanation of the research and a description of what was expected from the participants. Participants were asked if there were any questions about the experiment and were also asked to fill in the consent form and the questionnaire was handed to them by the researcher. The participants were in a quiet room, with as less external noise as possible. The researcher opened the PowerPoint presentation for the participant and left the room.

Each participant took part in both perception tests. In the first perception test the participants watched 10 PowerPoint slides with 20 video clips. The two clips on each slide showed a Hollywood actor/actress winning in one clip, losing in the other. The participants were asked to indicate in which video clip the actor/actress won. They were provided a printed answer sheet for each PowerPoint slide, where they indicated in which video clip the actor/actress

won: "Which one of the persons shown in the video fragments has won the Oscar?" The participants could choose either left or right.

In the second perception test, participants were asked to view 20 PowerPoint slides with one video clip on each slide. The same fragments from perception test 1 were used in perception test 2. After each video fragment, participants were asked to answer three questions on a 7-point Likert scale. An example: "To what extent is the smile fake or genuine?*"* In both perception tests participants could view the video clips as often as they desired, but were not allowed to go back after finishing a slide. After the participant completed the experiment they were asked whether or not they were familiar with the Oscar shows that they just watched, in order to eliminate previous knowledge. None of the participants indicated they were familiar with the fragments they watched.

It was important to investigate beforehand if a smile was genuine or not in order to analyze the participants' answers. Therefore two researchers analyzed the fragments from perception test 2 individually without having the knowledge who actually won or lost an Oscar and indicated whether a subject showed a genuine smile or not according to the action units related to Duchenne and non-Duchenne smiles from Ekman et al. (1990). In case of inconsistency between the answers, the researchers looked at the video fragment again and agreed upon the outcome.

Results

Perception test 1

A one-sample t-test was conducted, to measure the participant's answers given to the fragments of the two shown video's in which the actor/actress won or lost the Oscar. In order to rule out the 50% chance of a participant being able to guess the right answer, the test value was set at 0.5. An incorrect answer was labeled with 0 and a correct answer was labeled with 1. The one sample t-test showed $t(30)= 15.15$, $p=>.001$ ($M=.87$, $SD=.14$). These results indicate that participants were able to determine who the winner was when they had to decide between two fragments.

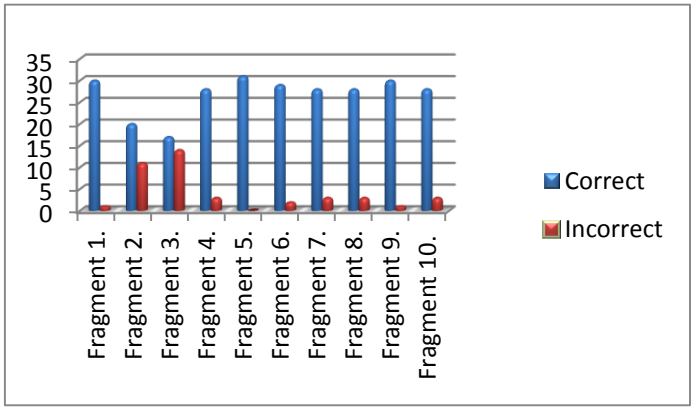

Figure 2. Number correct versus incorrect answers perception test 1

Perception test 2

The independent samples t-test revealed the scores of both the participants' and the researchers for not genuine ($M=4.00$, $SD=1.06$) and genuine (M=5.09, SD=0.56) did not differ $t(18)=2.877$, $p=.010$. Meaning the video fragments marked by the researchers as genuine did not differ from those marked as genuine by the participants.

Finally, for each video fragment the mean of happiness, spontaneity and genuineness were calculated. This resulted in a significant positive correlation between happiness and spontaneity: $r=.544$, n=31, $p=.002$. Furthermore, a positive significant correlation was also found between genuineness and happiness: $r=.736$, n=31, $p=.000$.

Conclusion/discussion

This study is interested in an issue, which examines the possibility to detect the genuineness of a losing or winning Oscar Nominee. Furthermore, this study examined the possibility of people to detect whether an Oscar Nominee had lost or won an Oscar. The results show the participants were able to detect whom the winner was, when deciding between two fragments. Another result shows participants were able to the genuineness of a smile.

As mentioned genuine smiles show actual enjoyment and involve the activation of certain muscle regions, particularly the zygomatic major which causes the lift-up of the lips to the sides of the face and cause wrinkles around the eyes (Messinger, Foger and Dickson, 1999) and have smooth and more regular facial movements (Hess & Kleck, 1994) than smiles that are judged as less genuine. Ochts et al. (2012) claim the meaning of a smile can vary depending on the characteristics of the performed facial expression. The results of this study show participants were able to detect whether an actor/actress was winning or losing an Oscar and previous studies support this claim (Messinger, Foger and Dickson, 1999; Ochts et al., 2012). It is assumed when people are winning they are experiencing a joyful moment and therefore these results are in line with previous findings. Therefore, the first hypothesis of the current study: "People are able to detect if an actor is either winning or losing an Oscar" is supported.

Carrol and Russel (1997) claim actors are able to perform a Duchenne smile. Therefore actors could be able to perform a deliberate Duchenne smile, but Brack (2014) suggests a Duchenne smile quite hard to fake even for actors/actresses. The second hypothesis of the current research: "People are able to detect whether an actor's smile is genuine or not genuine", was supported. These results are not in line with the study of Carrol and Russel (1997) but confirm the study of Brack (2014). As mentioned the study of Carrol and Russel (1997) contained professional Hollywood movies. This study investigated Oscar clips where the actors/actresses at the moment where not acting or did not rehearse their smile. Therefore it can be assumed actors in an acting setting are excellent in performing Duchenne smiles but when confronted with a real situation

they are not able to perform a deliberate Duchenne smile.

According to Ekman (1990) a Duchenne or genuine smile is one that shows amusement and appears spontaneously, while non-Duchenne smile is posed and made deliberately to convince others that enjoyment is occurring when it is not. Analysis of this study also provided some interesting findings related to that opinion and enabled making further conclusions related to the first hypothesis. In particular, the analysis revealed a significant positive correlation between the ratings regarding happiness and spontaneity and between happiness and genuineness of the smile; these findings indicate that participants' decisions on whether a certain actor/actress won/lost the Oscar are highly dependent on evaluations regarding the genuineness and spontaneity of their facial expressions; if an actor/actress is smiling in a non-posed and genuine way, people assume that s/he is in a happiness state at the time of the smile, therefore that s/he has won the Oscar.

Limitations and future research

The purpose of this research was to investigate whether smile related facial expressions of actors/actresses when winning or losing an Oscar can be attributed to the Duchenne smile Theory. However, the study suffered from one important limitation. Although the best video fragments were chosen for the perception tests, the quality of some of the fragments was not high enough and they were blurred as a result of cropping. There is no measure for the quality of the clips as the researchers did not record the materials themselves but collected the clips from YouTube. Therefore, there is no controlled experimental setting and it might have influenced the outcome of the study. This affects the construct validity.

The field of facial expressions research offers a wide spectrum of possibilities and phenomena worth investigating. Firstly, future research designs could focus on individual case studies of actors/actresses and compare their winning and losing facial expressions from several different award ceremonies throughout their careers in order to provide a more thorough understanding of the way these actors use their facial expressions to convey emotions. Moreover, a comparative analysis and study on different winning/losing video fragments from different actors/actresses could reveal common patterns in their facial expressions and a correlation between the genuineness and spontaneity of the communicated emotion. Last but not least, a study that measures the perception ratings of the actors'/actresses' emotions and takes into account the cultural and geographical background of the participants could reveal great differences and similarities in the way people from different background assess and evaluate facial expressions.

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Appendix 1 Questionnaire

Dear participant,

A group of students from Tilburg university are conducting a survey to evaluate how well Hollywood actors can pose a genuine smile. The questionnaire consists of two parts. In the first part short video clips of 10 pairs of Oscar winning and losing actors will be shown. Please mention for each pair who do you think won the Oscar.
In the second part you will see 20 video clips of 10 actors and we ask you answer to 3 questions for each video clip.
Filling in the survey will take maximum 15 minutes. Your answers will be strictly anonymous and will be used for research and educational purposes only.
Each video clip will take approximately 15 seconds to load on a 56k modem and you can play each fragment as many times as you prefer. After you have answered the question regarding a specific video fragment you cannot go back to watch the fragment again. Please keep in mind that there are no right or wrong answers and that we are only asking for your opinion.

1. How old are you? ……..

2. What is your gender?
1. Female
2. Male
3. Unspecified

3. What is the highest level of your education?
1. I have no education
2. Elementary school
3. Secondary school
4. MBO
5. Bachelor incomplete
6. Bachelor's degree
7. Master incomplete
8. Master's degree
9. Doctorate degree (e.g. PhD)
10. Other…….

You will now start looking at a PowerPoint presentation with different video fragments. Please look at the fragment as many times as you prefer and answer the corresponding question(s). Please answer the question(s) about each fragment before you move on to the next fragment. Part 1 consists of 10 fragments where you will have to answer 1 question about each fragment. Part 2 consists of 20 fragments where you have to answer 3 questions about each fragment.

Part 1

Please circle your answer

Video fragment 1:

Which one of the persons shown in the video fragments has won the Oscar?

Left Right

Video fragment 2:

Which one of the persons shown in the video fragments has won the Oscar?

Left Right

Video fragment 3:

Which one of the persons shown in the video fragments has won the Oscar?

Left Right

Video fragment 4:

Which one of the persons shown in the video fragments has won the Oscar?

Left Right

Video fragment 5:

Which one of the persons shown in the video fragments has won the Oscar?

Left Right

Video fragment 6:

Which one of the persons shown in the video fragments has won the Oscar?

Left Right

Video fragment 7:

Which one of the persons shown in the video fragments has won the Oscar?

Left Right

Video fragment 8:

Which one of the persons shown in the video fragments has won the Oscar?

Left Right

Video fragment 9:

Which one of the persons shown in the video fragments has won the Oscar?

Left Right

Video fragment 10:

Which one of the persons shown in the video fragments has won the Oscar?

Left Right

Part 2

Video fragment 1:

1. To what extent is the smile fake or genuine? Please indicate your opinion by using a 7 point scale, were 1 is absolutely fake and 7 is absolutely genuine

absolutely fake o o o o o o o absolutely genuine

2. To what extent is the smile posed or spontaneous? Please indicate your opinion by using a 7 point scale, were 1 is totally posed and 7 is totally spontaneous.

totally posed o o o o o o o totally spontaneous

3. To what extent was the person you have just seen happy (or amused) at the time of the smile? Please indicate your opinion by using a 7 point scale, were 1 is not at all happy and 7 is totally happy.

not at all happy o o o o o o o totally happy

Video fragment 2:

1. To what extent is the smile fake or genuine? Please indicate your opinion by using a 7 point scale, were 1 is absolutely fake and 7 is absolutely genuine

absolutely fake o o o o o o o absolutely genuine

2. To what extent is the smile posed or spontaneous? Please indicate your opinion by using a 7 point scale, were 1 is totally posed and 7 is totally spontaneous.

totally posed o o o o o o o totally spontaneous

3. To what extent was the person you have just seen happy (or amused) at the time of the smile? Please indicate your opinion by using a 7 point scale, were 1 is not at all happy and 7 is totally happy.

not at all happy o o o o o o o totally happy

Video fragment 3:

1. To what extent is the smile fake or genuine? Please indicate your opinion by using a 7 point scale, were 1 is absolutely fake and 7 is absolutely genuine

absolutely fake o o o o o o o absolutely genuine

2. To what extent is the smile posed or spontaneous? Please indicate your opinion by using a 7 point scale, were 1 is totally posed and 7 is totally spontaneous.

totally posed o o o o o o o totally spontaneous

3. To what extent was the person you have just seen happy (or amused) at the time of the smile? Please indicate your opinion by using a 7 point scale, were 1 is not at all happy and 7 is totally happy.

not at all happy o o o o o o o totally happy

Video fragment 4:

1. To what extent is the smile fake or genuine? Please indicate your opinion by using a 7 point scale, were 1 is absolutely fake and 7 is absolutely genuine

absolutely fake o o o o o o o absolutely genuine

2. To what extent is the smile posed or spontaneous? Please indicate your opinion by using a 7 point scale, were 1 is totally posed and 7 is totally spontaneous.

totally posed o o o o o o o totally spontaneous

3. To what extent was the person you have just seen happy (or amused) at the time of the smile? Please indicate your opinion by using a 7 point scale, were 1 is not at all happy and 7 is totally happy.

not at all happy o o o o o o o totally happy

Video fragment 5:

1. To what extent is the smile fake or genuine? Please indicate your opinion by using a 7 point scale, were 1 is absolutely fake and 7 is absolutely genuine

absolutely fake o o o o o o o absolutely genuine

2. To what extent is the smile posed or spontaneous? Please indicate your opinion by using a 7 point scale, were 1 is totally posed and 7 is totally spontaneous.

totally posed o o o o o o o totally spontaneous

3. To what extent was the person you have just seen happy (or amused) at the time of the smile? Please indicate your opinion by using a 7 point scale, were 1 is not at all happy and 7 is totally happy.

not at all happy o o o o o o o totally happy

Video fragment 6:

1. To what extent is the smile fake or genuine? Please indicate your opinion by using a 7 point scale, were 1 is absolutely fake and 7 is absolutely genuine

absolutely fake o o o o o o o absolutely genuine

2. To what extent is the smile posed or spontaneous? Please indicate your opinion by using a 7 point scale, were 1 is totally posed and 7 is totally spontaneous.

totally posed o o o o o o o totally spontaneous

3. To what extent was the person you have just seen happy (or amused) at the time of the smile? Please indicate your opinion by using a 7 point scale, were 1 is not at all happy and 7 is totally happy.

not at all happy o o o o o o o totally happy

Video fragment 7:

1. To what extent is the smile fake or genuine? Please indicate your opinion by using a 7 point scale, were 1 is absolutely fake and 7 is absolutely genuine

absolutely fake o o o o o o o absolutely genuine

2. To what extent is the smile posed or spontaneous? Please indicate your opinion by using a 7 point scale, were 1 is totally posed and 7 is totally spontaneous.

totally posed o o o o o o o totally spontaneous

3. To what extent was the person you have just seen happy (or amused) at the time of the smile? Please indicate your opinion by using a 7 point scale, were 1 is not at all happy and 7 is totally happy.

not at all happy o o o o o o o totally happy

Video fragment 8:

1. To what extent is the smile fake or genuine? Please indicate your opinion by using a 7 point scale, were 1 is absolutely fake and 7 is absolutely genuine

absolutely fake o o o o o o o absolutely genuine

2. To what extent is the smile posed or spontaneous? Please indicate your opinion by using a 7 point scale, were 1 is totally posed and 7 is totally spontaneous.

totally posed o o o o o o o totally spontaneous

3. To what extent was the person you have just seen happy (or amused) at the time of the smile? Please indicate your opinion by using a 7 point scale, were 1 is not at all happy and 7 is totally happy.

not at all happy o o o o o o o totally happy

Video fragment 9:

1. To what extent is the smile fake or genuine? Please indicate your opinion by using a 7 point scale, were 1 is absolutely fake and 7 is absolutely genuine

absolutely fake o o o o o o o absolutely genuine

2. To what extent is the smile posed or spontaneous? Please indicate your opinion by using a 7 point scale, were 1 is totally posed and 7 is totally spontaneous.

totally posed o o o o o o o totally spontaneous

3. To what extent was the person you have just seen happy (or amused) at the time of the smile? Please indicate your opinion by using a 7 point scale, were 1 is not at all happy and 7 is totally happy.

not at all happy o o o o o o o totally happy

Video fragment 10:

1. To what extent is the smile fake or genuine? Please indicate your opinion by using a 7 point scale, were 1 is absolutely fake and 7 is absolutely genuine

absolutely fake o o o o o o o absolutely genuine

2. To what extent is the smile posed or spontaneous? Please indicate your opinion by using a 7 point scale, were 1 is totally posed and 7 is totally spontaneous.

totally posed o o o o o o o totally spontaneous

3. To what extent was the person you have just seen happy (or amused) at the time of the smile? Please indicate your opinion by using a 7 point scale, were 1 is not at all happy and 7 is totally happy.

not at all happy o o o o o o o totally happy

Video fragment 11:

1. To what extent is the smile fake or genuine? Please indicate your opinion by using a 7 point scale, were 1 is absolutely fake and 7 is absolutely genuine

absolutely fake o o o o o o o absolutely genuine

2. To what extent is the smile posed or spontaneous? Please indicate your opinion by using a 7 point scale, were 1 is totally posed and 7 is totally spontaneous.

totally posed o o o o o o o totally spontaneous

3. To what extent was the person you have just seen happy (or amused) at the time of the smile? Please indicate your opinion by using a 7 point scale, were 1 is not at all happy and 7 is totally happy.

not at all happy o o o o o o o totally happy

Video fragment 12:

1. To what extent is the smile fake or genuine? Please indicate your opinion by using a 7 point scale, were 1 is absolutely fake and 7 is absolutely genuine

absolutely fake o o o o o o o absolutely genuine

2. To what extent is the smile posed or spontaneous? Please indicate your opinion by using a 7 point scale, were 1 is totally posed and 7 is totally spontaneous.

totally posed o o o o o o o totally spontaneous

3. To what extent was the person you have just seen happy (or amused) at the time of the smile? Please indicate your opinion by using a 7 point scale, were 1 is not at all happy and 7 is totally happy.

not at all happy o o o o o o o totally happy

Video fragment 13:

1. To what extent is the smile fake or genuine? Please indicate your opinion by using a 7 point scale, were 1 is absolutely fake and 7 is absolutely genuine

absolutely fake o o o o o o o absolutely genuine

2. To what extent is the smile posed or spontaneous? Please indicate your opinion by using a 7 point scale, were 1 is totally posed and 7 is totally spontaneous.

totally posed o o o o o o o totally spontaneous

3. To what extent was the person you have just seen happy (or amused) at the time of the smile? Please indicate your opinion by using a 7 point scale, were 1 is not at all happy and 7 is totally happy.

not at all happy o o o o o o o totally happy

Video fragment 14:

1. To what extent is the smile fake or genuine? Please indicate your opinion by using a 7 point scale, were 1 is absolutely fake and 7 is absolutely genuine

absolutely fake o o o o o o o absolutely genuine

2. To what extent is the smile posed or spontaneous? Please indicate your opinion by using a 7 point scale, were 1 is totally posed and 7 is totally spontaneous.

totally posed o o o o o o o totally spontaneous

3. To what extent was the person you have just seen happy (or amused) at the time of the smile? Please indicate your opinion by using a 7 point scale, were 1 is not at all happy and 7 is totally happy.

not at all happy o o o o o o o totally happy

Video fragment 15:

1. To what extent is the smile fake or genuine? Please indicate your opinion by using a 7 point scale, were 1 is absolutely fake and 7 is absolutely genuine

absolutely fake o o o o o o o absolutely genuine

2. To what extent is the smile posed or spontaneous? Please indicate your opinion by using a 7 point scale, were 1 is totally posed and 7 is totally spontaneous.

totally posed o o o o o o o totally spontaneous

3. To what extent was the person you have just seen happy (or amused) at the time of the smile? Please indicate your opinion by using a 7 point scale, were 1 is not at all happy and 7 is totally happy.

not at all happy o o o o o o o totally happy

Video fragment 16:

1. To what extent is the smile fake or genuine? Please indicate your opinion by using a 7 point scale, were 1 is absolutely fake and 7 is absolutely genuine

absolutely fake o o o o o o o absolutely genuine

2. To what extent is the smile posed or spontaneous? Please indicate your opinion by using a 7 point scale, were 1 is totally posed and 7 is totally spontaneous.

totally posed o o o o o o o totally spontaneous

3. To what extent was the person you have just seen happy (or amused) at the time of the smile? Please indicate your opinion by using a 7 point scale, were 1 is not at all happy and 7 is totally happy.

not at all happy o o o o o o o totally happy

Video fragment 17:

1. To what extent is the smile fake or genuine? Please indicate your opinion by using a 7 point scale, were 1 is absolutely fake and 7 is absolutely genuine

absolutely fake o o o o o o o absolutely genuine

2. To what extent is the smile posed or spontaneous? Please indicate your opinion by using a 7 point scale, were 1 is totally posed and 7 is totally spontaneous.

totally posed o o o o o o o totally spontaneous

3. To what extent was the person you have just seen happy (or amused) at the time of the smile? Please indicate your opinion by using a 7 point scale, were 1 is not at all happy and 7 is totally happy.

not at all happy o o o o o o o totally happy

Video fragment 18:

1. To what extent is the smile fake or genuine? Please indicate your opinion by using a 7 point scale, were 1 is absolutely fake and 7 is absolutely genuine

absolutely fake o o o o o o o absolutely genuine

2. To what extent is the smile posed or spontaneous? Please indicate your opinion by using a 7 point scale, were 1 is totally posed and 7 is totally spontaneous.

totally posed o o o o o o o totally spontaneous

3. To what extent was the person you have just seen happy (or amused) at the time of the smile? Please indicate your opinion by using a 7 point scale, were 1 is not at all happy and 7 is totally happy.

not at all happy o o o o o o o totally happy

Video fragment 19:

1. To what extent is the smile fake or genuine? Please indicate your opinion by using a 7 point scale, were 1 is absolutely fake and 7 is absolutely genuine

absolutely fake o o o o o o o absolutely genuine

2. To what extent is the smile posed or spontaneous? Please indicate your opinion by using a 7 point scale, were 1 is totally posed and 7 is totally spontaneous.

totally posed o o o o o o o totally spontaneous

3. To what extent was the person you have just seen happy (or amused) at the time of the smile? Please indicate your opinion by using a 7 point scale, were 1 is not at all happy and 7 is totally happy.

not at all happy o o o o o o o totally happy

Video fragment 20:

1. To what extent is the smile fake or genuine? Please indicate your opinion by using a 7 point scale, were 1 is absolutely fake and 7 is absolutely genuine

absolutely fake o o o o o o o absolutely genuine

2. To what extent is the smile posed or spontaneous? Please indicate your opinion by using a 7 point scale, were 1 is totally posed and 7 is totally spontaneous.

totally posed o o o o o o o totally spontaneous

3. To what extent was the person you have just seen happy (or amused) at the time of the smile? Please indicate your opinion by using a 7 point scale, were 1 is not at all happy and 7 is totally happy.

not at all happy o o o o o o o totally happy

If you have any comments related to the survey or would like to add anything, please write it here

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……

THANK YOU FOR YOUR PARTICIPATION

Appendix 2 Consent form

Consent Form

Date: _____
Name: _____
Age: _____

I hereby declare that I am aware of and agree with my contribution to a study for Tilburg University. I know that the collected data is used for the course Nonverbal Communication at Tilburg University and is used for educational purposes only. Finally, I have been told that all data will be held confidential and in no means will be distributed for any other reasons than this specific research. Furthermore, I am aware that I can terminate my participation at any moment in time without providing any reasons.

Signature participant	Signature researcher
……	……