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The expressions of embarrassment through Zoom across different cultures

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Abstract

Due to the corona crisis, our professional and social activities have shifted to an online environment. This shift makes it possible to easily interact with other people across different cultures. However, these online interactions can provoke embarrassing situations due to, for example, accidental unnoticed communication. Research has shown that different cultures experience embarrassment differently, for example, when comparing individualistic cultures to collectivistic cultures. However, no study has investigated embarrassment across cultures through a videoconferencing program. One of the advantages is, among other things, that "being recorded" is a much more natural thing in an online environment. This thesis investigated the extent to which collectivistic and individualistic cultures differ in their expression of embarrassment in an online environment while simultaneously analyzing the role of age. In order to study this, embarrassment was elicited by asking participants to sing, while the nonverbal expressions within different cultures and ages were coded using the Facial Action Coding System. The expressions were analyzed through a recorded Zoom session. This showed that people from an individualistic culture (e.g., The Netherlands) displayed more signs of embarrassment online than people from a collectivistic culture (e.g., Spain). Young adults (i.e., college students) also displayed more signs of embarrassment online than older adults. This study shows that it is still possible to elicit embarrassment similar to face-to-face communication in an online setting. As online communication grows, more attention should be paid to the similarities and differences between expressions of emotions in online communication.

Keywords: collectivistic cultures, embarrassment, individualistic cultures, online

Contents

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Introduction

Signing a song in front of the classroom without realizing one is seen and heard because he/she forgot the mute button is a typical situation that occurred during the corona crisis (Satchu, 2020). The corona crisis has played a significant role in our everyday life. Due to this crisis, our professional and social activities have shifted to an online environment. Videoconferencing programs such as Zoom have seen exponential growth, with having 10 million users in 2019 and up to 300 million users in 2020 (Wiederhold, 2020), making Zoom one of the most popular videoconferencing programs (Stone, 2020). Programs like these enable society to continue everyday practices remotely. However, because these videoconferencing programs are used for all kinds of social activities, awkward interactions (i.e., uncomfortable situations) occur. Such awkward interactions are, for instance, caused by an unstable Internet connection or out-of-sync audio (Murphy, 2020), which eventually leads to embarrassment. The American Psychology Association (2020) describes embarrassment as "a self-conscious emotion in which a person feels awkward or flustered in other peoples' company or because of the attention of others, as, for example, when being observed engaging in actions that are subject to mild disapproval from others".

As videoconferencing programs are used worldwide, embarrassment may be quite similar across cultures because the expressions used when experiencing such emotions are often considered universal (Goetz & Keltner, 2007; Keltner & Buswell, 1997). However, embarrassment is also affected by culture because some cultures are more prone to and show more expressions of embarrassment than other cultures (Edelmann et al., 1989; Eid & Diener, 2001; Goetz & Keltner, 2007; Mesquita & Karasawa, 2004). Embarrassment also depends on both personality, as one may have a higher susceptibility to embarrassment compared to others (Modigliani, 1968; Sharkey & Singelis, 1995; Kumar, Suar, & Singh, 2020), and age. According to the Positivity Principle, negative self-conscious emotions such as shame and

embarrassment decrease when one gets older, whereas positive emotions, such as pride, increase (Orth, Robins, & Soto, 2010). Therefore, like in some cultures, certain age groups display more signs of embarrassment than others (Sarkar & Sarkar, 2017). Especially adolescents and young adults are prone to embarrassment, as social evaluation plays an important role in those age groups (Vani, Pila, Willson, & Sabiston, 2020).

The study of embarrassment through an online videoconferencing program across different cultures will generate a better understanding of the expressions of embarrassment in an online environment as well as how to read this emotion across different cultures and ages online. It also aims to understand better how susceptible to embarrassment people of different cultures, and ages are. Therefore, this thesis aims to acquire a better understanding of the self-conscious emotion embarrassment, set in different development stages, and the cultural differences this emotion may perceive online. The research questions this thesis will focus on are:

-How can we elicit embarrassment in an online environment?

-How does embarrassment manifest itself online?

-To what extent is online embarrassment affected by cultural differences?

-To what extent is one's susceptibility to embarrassment determined by cultural differences?

-How much does age influence online embarrassment?

-How much does age influence one's susceptibility to embarrassment?

Theoretical background

Embarrassment

Embarrassment, pride, guilt and shame are examples of self-conscious emotions. Self-conscious emotions are often referred to as social emotions since these emotions are elicited by real or imagined experiences with others as well as the awareness of how others view and evaluate a person (Leary, 2007). Shame and guilt, for example, can be experienced when a person is aware of the likelihood of others responding to this persons' violation of the social norms (Beer & Keltner, 2004). However, emotions such as these that emerge from self-evaluation and self-awareness are also referred to as self-conscious emotions. For example, when people believe they have fallen short of their ideal self-presentation, they might experience a feeling of guilt or shame (Tracy & Robins, 2004). Self-conscious emotions play an important role in regulating and motivating different feelings, behaviors, and thoughts (Tracy & Robins, 2007), and they encourage people to obey laws and values, facilitate appropriate responses, and provide negative feedback to the misbehaviors (Beer & Keltner, 2004).

Self-conscious emotions are thought to have evolved to help people achieve specific social purposes, whereas basic emotions are considered to serve more for reproductive and survival purposes (Keltner & Buswell, 1997). However, self-conscious emotions were important to solve various complex social challenges that were also crucial to surviving. Such complex social challenges included ensuring smooth group functioning and dealing with cheaters (Tracy & Robins, 2007). From a developmental perspective, self-conscious emotions occur later in childhood as babies do not yet have developed self-awareness and self-reflection (Leary, 2007). In contrast, expressions of basic emotions (e.g., surprise, anger, joy) appear within the first months (Lewis, Sullivan, Stanger, & Weiss, 1989).

Self-conscious emotions are divided into negative and positive self-conscious emotions. Embarrassment and shame are considered negative self-conscious emotions. Although these emotions are closely related to each other (Harris, 2003), some differences distinguish them. First, shame is experienced more intensely compared to embarrassment. Second, shame does not need the presence of someone else to be experienced, while the presence of others is needed for embarrassment to occur (Lewis, 2010), something that will be elaborated upon in the next chapter. Embarrassment can be defined as "a self-conscious emotion in which a person feels awkward or flustered in other peoples' company or because of the attention of others, as, for example, when being observed engaging in actions that are subject to mild disapproval from others" (American Psychology Association, 2020).

How does embarrassment occur? Even though five different theories have been formulated (for a detailed analysis, see Keltner & Buswell, 1997), according to Miller (1996), two main different theories explain what causes embarrassment. These are the Social Evaluation Theory (Miller, 1996; Miller & Leary, 1992) and the Dramaturgical Theory (Goffman, 1967; Parrot, Sabini, & Silver, 1987). The Social Evaluation Theory stresses the importance of other peoples' presence and opinions in causing embarrassment (Miller, 1996; Modigliani, 1968). In other words, this theory states that what people think of us is the leading cause of embarrassment. For example, when a person gets the feeling that they are being evaluated, whether this is negatively or positively, the person could experience embarrassment (Wu & Mattila, 2013). The Dramaturgical Theory has a different approach and claims that instead of a fear of being evaluated, embarrassment is caused by a failure of fulfilling the roles and scripts people are expected to play (Parrott et al., 1987). For example, when a person fails to fulfil the expected social position (e.g., spilling drinks as a waiter), embarrassment occurs (Parrot et al., 1987).

Nonverbal expressions of embarrassment. Embarrassment is associated with several nonverbal expressions, such as avoiding eye contact, speech disturbances, and increased smiling and body motions (Edelmann & Hampson, 1981; Modigliani, 1971). Interestingly, however, the existing literature focuses more on the facial expressions of embarrassment than bodily expressions. Embarrassment is also typically associated with blushing. However, blushing also occurs when experiencing emotions such as anger and shame (Keltner & Buswell, 1997). Compared to other emotions, embarrassment does not carry one specific facial expression (Miller, 2007). Nevertheless, the different nonverbal expressions are clearly recognizable so that when a person is experiencing embarrassment, others will know it (Miller, 2007).

When a person experiences embarrassment, a specific sequence occurs, which takes approximately five seconds in total. Embarrassment starts with gaze aversion followed by a smile control that, according to Keltner & Buswell (1997), means that lower facial movement occurs that prevents a person from smiling. After that, a non-Duchenne smile occurs, which indicates that the lip corner is pulled upwards without actually smiling with the eyes (Gunnery & Hall, 2014). Afterwards, a second smile control occurs, followed by head movements facing downwards while the person is simultaneously touching the face (see Figure 1) (Keltner & Buswell, 1997). However, several actions in this sequence might not always be observed (Miller, 2007).

Embarrassment and individual differences. There are clear individual differences regarding embarrassment. Not everyone is as easily embarrassed since it differs between individuals according to their personality. In scientific research, there is a consensus about a phenomenon called "embarrassability". This term is used to describe the susceptibility to embarrassment. The degree to which a person is susceptible varies as one may be more prone to embarrassment compared to others (Modigliani, 1968; Sharkey &

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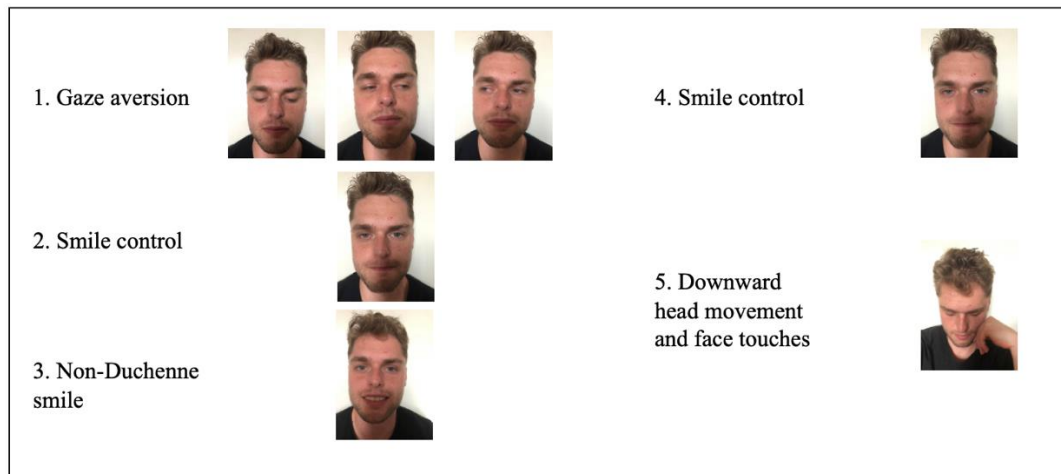
Singelis, 1995; Kumar, Suar, & Singh, 2020).

Figure 1. Example of the expressions of an embarrassed person

According to Miller (2007), "embarrassability" depends on how sensitive one is to social evaluation. This is because embarrassed people have a solid vulnerability to rejection. They want to be acknowledged by people and are particularly driven to avoid social exclusion. As a result, embarrassed people fear possible rejections and are worried that they will receive more disapproval from others than they already do (Miller, 1995). Thus, people concerned with their public image or receptive to others' opinions are more likely to be embarrassed than people concerned with their intrinsic qualities (Miller, 2007; Singelis & Sharkey, 1995).

There are currently two scales to measure a persons' embarrassability. The first scale that measures embarrassability is created by Modigliani (1968). The Embarrassabilty Scale measures the level of embarrassment one has based on different situational components. Some people are more likely to feel uncomfortable in awkward situations, whereas others do not feel any discomfort in these same situations. The second scale is the Susceptibility to Embarrassment Scale, created by Kelly & Jones (1997). Rather than measuring the situational components, the scale focuses more on the dispositional characteristics of one being embarrassed.

Embarrassment and social presence. Embarrassment is considered a social emotion and typically experienced in a social context (Tangney, Miller, Flicker, & Barlow, 1996). Social presence can be described as a circumstance in which someone else may personally witness an individual's actions (Wang, Oppewal, & Thomas, 2017). Interestingly, however, this social presence can also be imaginary, which means that embarrassment may even occur when one is alone but envisions that others are watching the person (Edelmann, 1981; Miller, 1996). Furthermore, embarrassment is more intense around strangers and new acquaintances than friends and family (MacDonald, & Davies, 1983).

According to Lewis (1995), there are two types of embarrassment people may experience, namely evaluative and exposure embarrassment. Individuals' disapproving evaluations of their actions in relation to a particular norm, rule or goal lead to evaluative embarrassment. For example, in a study by Lewis and Ramsay (2002), evaluative embarrassment in children occurred when a task could not be completed in a given timeframe. This resulted in a negative self-evaluation and, therefore, embarrassment (Lewis & Ramsay, 2002). On the other hand, exposure embarrassment is experienced when one is the focus of other peoples' attention. Examples of exposure embarrassment are being complemented in an excessive way, being suddenly pointed at, or being sung "Happy Birthday" in, for example, a restaurant (Lewis & Ramsay, 2002).

Based on the literature mentioned above, it is clear that much research has been conducted about embarrassment in general and embarrassment as an emotion in relation to nonverbal expressions, individual differences and social presence. However, these findings were all measured in different experimental settings rather than an online environment. Compared to face-to-face communication, people can experience emotions differently in an online setting, as communicating in an online setting is more demanding (Wiederhold, 2020). When communicating through video conferencing, most nonverbal cues relating to the body

are lost since video conferencing only displays a person's face. Also, a small lag occurs between someone's expressions, movements and vocalizations and the other participant seeing it, making face-to-face communication less demanding (Wiederhold, 2020). Therefore, the following two research questions are established:

RQ1: -How can we elicit embarrassment in an online environment?

RQ2: -How does embarrassment manifest itself online?

Embarrassment and culture

Research suggests that across cultures, there are similarities and differences in experiencing basic emotions (Fisher, 1999). Only a limited set of different emotions are thought to be recognizable by facial expressions across cultures and can be considered universal emotions. These universal emotions are the following: disgust, surprise, anger, happiness, fear and sadness (Ekman, 1992). However, even though these emotions are recognizable across cultures, this does not mean that they are also experienced in the same way across different cultures because each culture has different rules when expressing these kinds of emotions (An, Ji, Marks, Zhang, 2017).

Studies about self-conscious emotions have shown similarities and differences across cultures. On the one hand, it is argued that self-conscious emotions are developed over time to help people navigate how to live in a group, which, in turn, created different ways of processing emotions that are universal at their core. These self-conscious emotions exist in all languages and are recognizable across cultures (Goetz & Keltner, 2007). According to Miller (2007), embarrassment is one of these emotions that tends to function in the same way across cultures. This may be explained by the fact that this specific emotion occurs whenever an event raises the threat from unwanted judgements that others may provide, which can happen in any culture.

On the other hand, some studies focus on the fact that there is weaker evidence for self-conscious emotions being universal, instead, they argue that they vary across cultures (Tracy & Robins, 2004). Their point is that these emotions vary within several areas across cultures, such as their nonverbal expression, their lexical presentation, the way in which emotions are experienced, the way in which emotions are valued, and the consequences these emotions have regarding ones' self-esteem (Goetz & Keltner, 2007).

Individualistic vs collectivistic. When it comes to how people perceive embarrassment, there exists a difference between individualistic and collectivistic cultures. Collectivistic cultures focus on being a part of or becoming a group member, where the self is more seen as interdependent. More specifically, collectivists perceive social norms, emphasize social relationships, maintain social harmony and a collectivistic interest (Singelis, 1994). Some collectivist cultures are also honour cultures. These cultures are, for example, situated in South America and Spain (Fisher, 1999). The term honour is defined as one's self-esteem and self-respect measured by themselves or others. The core value of honour in these cultures is reflected in fear of one's public actions and the avoidance of being humiliated (Miller, 1995). An individualistic culture (e.g., The Netherlands) is more focused on the individual themselves and sees the individual as independent and autonomous. (Markus & Kitayama, 1991). Individualists are more focused on achieving personal goals, personal freedom and welfare (Singelis, 1994) and will therefore care less about perceiving social norms and maintaining social harmony. In general, individualistic cultures are found in Western societies and collectivist cultures more in Asian societies (Wan, 2013).

Face is also an important aspect to mention when comparing embarrassment within different cultures since the human desire for social recognition is underpinned by the concept of face. Via social interactions, one's face can be enhanced (e.g., giving compliment), saved (e.g., using humor) and lost (e.g., receiving criticism), which causes face concern

(Koroshinadze, 20015; Ting-Toomey, 2005). Face concern can be described as the level at which one protects and positively enhances one's social image in social interactions (Chan, Wan, & Sin, 2009). In general, collectivistic cultures are more sensitive to face concerns than individualistic cultures (Wan, 2013). As collectivist cultures tend to be more sensitive to face concern, they are more likely to avoid embarrassment as they try their best to maintain relational harmony (Oetzel et al., 2001). Furthermore, embarrassment is closely related to a fear of breaking social norms (Hofmann, Anu Asnaai & Hinton, 2010). According to Singelis and Sharkey (1995), people of a collectivistic culture may experience embarrassment frequently because of the rules these cultures have concerning social behaviors. Also, in collectivistic cultures, the feeling of being embarrassed is generated by an external sanction (e.g., probability of being excluded), whereas, in individualistic cultures, self-blame and guilt are more common because these emotions are generated by an internal sanction (Hofmann et al., 2010).

Considering the literature discussed above, it could be expected that embarrassment would be experienced more frequently in collectivistic cultures (e.g., Spain) than individualistic cultures (e.g., The Netherlands). Also, based on the literature, there is a possibility that collectivistic cultures would have a higher susceptibility to embarrassment as they tend to be more easily embarrassed. Therefore, the following research questions are established with the following hypotheses:

RQ3: To what extent is online embarrassment affected by cultural differences?

RQ4: To what extent is one's susceptibility to embarrassment determined by cultural differences?

Based on the literature discussed above, it is expected that:

H1: Collectivistic cultures display more signs of embarrassment online than individualistic cultures.

H2: Collectivistic cultures, have a higher susceptibility to embarrassment than individualistic cultures.

Developmental stages of embarrassment

The experience of embarrassment already starts at a young age. According to the study of Buss, Iscoe, & Buss (1979), this emotion begins to develop around the age of five. Children at the age of five are starting to become aware of their public self, meaning that they become aware of themselves, that they can be seen as social objects and that others can perceive them as, e.g., clumsy. First, children might experience primitive embarrassment. Primitive embarrassment results from adverse reactions from others about the self, such as receiving criticism or being mocked. Bennet (1989) showed that children from five to eight experience this primitive embarrassment. Mature embarrassment occurs later in childhood and results from realizing a deviation between the image of oneself and the public image that one thinks he/she has projected towards others. This form of embarrassment first occurs around the age of eight and older (Bennett, 1989). It should be noted that most research has focused on the developmental stages of embarrassment within children rather than older ones.

During early adolescence (ages from 10-13), teenagers experience more body-related embarrassment, as the body becomes more salient during this period. These changes will continue during middle adolescence (age 14-17) (Barrett, 1996). Also, the positive evaluation of others becomes more critical (Vani et al., 2020). According to Orth et al. (2010), there are important shifts in relationships and social roles in the life stages of adolescence, young adulthood and old age. The study suggests that these life stages are essential in the process of forming self-conscious emotions.

According to the literature, there are also changes in personality traits during one's life span, which is called the Maturity Principle. According to this principle, people improve during their life span on several personality traits that help them accomplish activities

consistent with adult life (Van den Akker, Deković, Asscher, & Prinzie, 2014). Furthermore, as one gets older, more psychological health will be obtained (Wortman, Lucas, & Donnellan, 2012). This principle also suggests that maladaptive emotions such as anger should decrease with age, whereas adaptive emotions increase when one gets older. Previous research showed that guilt, a self-conscious emotion, is associated with an adapted behavior and generally increases by age, whereas shame is associated with dysfunctional behavior and generally declines by age (Orth, Berking, & Burkhardt, 2006).

There is also evidence that affective dispositions change during one's life span, which is called the Positivity Principle. This principle suggests that across adulthood, the positive, pleasant emotions (e.g., pride) tend to increase, whereas the unpleasant emotions (e.g., shame) tend to decrease when one gets older (Orth et al., 2010). The study of Orth et al. (2010) suggested that self-conscious emotions are formed during adolescence, young adulthood and old age and are therefore important life stages for this study. For this reason, the samples were divided into two different age groups, namely college students (i.e., young adults) and older adults. When following both principles, embarrassment would be expected to decrease with age. Based on these findings, the following research questions are formulated:

-*RQ 4: How much does age influence online embarrassment?*

-*RQ5: How much does age influence one's susceptibility to embarrassment?*

As according to both principles, unpleasant emotions decrease with age, it is expected that:

-*H3: College students display more signs of embarrassment online than adults.*

-*H4: College students have a higher susceptibility to embarrassment than adults.*

In order to get an answer to the research questions mentioned above, the following method was used:

Method

Research design

Evoking embarrassment through Zoom has not been experimentally implemented yet. Several researchers were able to induce embarrassment in different ways, such as making the participants sing (Drummond & Su, 2012), showing erotic material (Costa, Dinsbach, Manstead, & Bitti, 2001), providing embarrassing scenarios (Sabini, Siepmann, Stein, & Meyerowitz, 2000) or performing tasks to make participants look foolish (e.g., biting in a pacifier or dancing) (Apsler, 1975; Brown, 1970). In this thesis, embarrassment will also be evoked through singing, as this was one of the most feasible ways to elicit embarrassment through a videoconferencing program. The goal of this thesis was to assess displays of embarrassment through Zoom across ages and cultures. For this purpose, a two (Spanish college students vs Dutch college students) x two (Spanish adults vs Dutch adults) between-subjects study was conducted. To elicit embarrassment, participants were asked to sing a song in a Zoom session and answer twenty-five questions regarding their susceptibility to embarrassment.

Participants

The sample consisted of 63 participants. However, two participants were not included due to an unstable internet connection. Furthermore, there was one participant who opted not to participate. Therefore, the final sample consisted of 30 Spanish and 30 Dutch participants (collectivistic culture vs individualistic culture). The majority were females (N = 41) rather than males (N = 19). The participants consisted of two age groups: college students (i.e., young adults) and adults (i.e., older adults). The age range of the college students was 19 to 30 years old. College students with a Spanish nationality had a mean age of 23 (SD = 0.52), college students with a Dutch nationality had a mean age of 24 (SD = 0.62). The older adults ranged in age from 49 to 63, with a mean age for Spanish adults of 56.60 (SD = 0.89) and a

mean age for Dutch adults of 54.93 (*SD* = 1.04). The participants were recruited based on their Spanish or Dutch nationality and were collected through different social media channels and snowball sampling.

Measures

Nonverbal expressions. Each Zoom session was recorded, and these recordings were then used to further code and analyze the participants. The nonverbal expressions of each participant were coded during the time of singing which lasted two minutes. The nonverbal expressions of each participant were coded according to the criteria of the study of Costa et al. (2001) and Keltner and Buswell (1997). However, gaze shifts and gaze downwards were not coded as the recorded Zoom videos' quality was insufficient. The study of Costa et al. (2001) also included chair rotations. Despite the fact that this was observed within several participants, this was not coded as not every participant disposed of a rotating chair. Therefore, the following eight nonverbal expressions were coded: Lip movements, non-Duchenne smiles, head movements downwards, head movements away, head inclination, face touching, hand movements and posture shifts. The coding scheme with a specific description of the codes and examples can be found in Appendix A. Coding was carried out with the annotation tool Elan (Sloetjes & Wittenburg, 2008). Each specific behavior that occurred was coded once. For example, when a hand movement occurred and the hand movement changed to a different position, it was coded twice.

Reliability of the measurement. In line with the studies of Costa et al. (2001) and Keltner (1995), the same method of establishing reliability was followed. One person coded the nonverbal expressions of each participant. A second person randomly coded 10 participants. This person was unaware of the research aim. A ratio was calculated to evaluate intercoder reliability. The ratio was based on 138 coded behaviors the two coders agreed on. This was multiplied by two (276) and divided by the total number of the behaviors that were

coded which were 316 behaviors (the first coder counted 162 behaviors and the second coder counted 154 behaviors), which resulted in a mean ratio of .873.

Self-report. To measure the respondents' susceptibility to embarrassment, the Susceptibility to Embarrassment Scale (SES) was used, adapted from the study of Kelly and Jones (1997). The SES measured the dispositional characters of an embarrassed person. The scale consists of twenty-five questions. Examples of statements included were: "I feel uncomfortable in a group of people" (item 3) and "I worry about making a fool out of myself" (item 23). The responses of each item were measured on a 7-point scale (1 = Not at all like me, 7 = Very much like me). The different scores could range from 25 to 175. The higher people scored, the more they were susceptible to embarrassment. Reliability analysis revealed a Cronbach's α of .74, which indicates that the SES had a good reliability.

Materials

Audience. As embarrassment is a social emotion, an audience that consisted of two individuals was created to elicit a more intense feeling of embarrassment (MacDonald & Davies, 1983). This audience consisted of "Jan" and "Anna" who were fictional people created by the researcher. The audience had their camera turned off in order to prevent any facial expression that might influence the participant (See Appendix B)

Video. A funny video was displayed to the participants to reduce any discomfort they might have experienced. The video was about singing in public. The videos were in Dutch and in Spanish. (See Appendix B)

Lyrics. Participants received a link with the lyrics of the chosen song via the Zoom chat. The lyrics were displayed on the participants' screen. During the singing, they were therefore not able to see Zoom.

Link. The following link contains all recorded Zoom sessions of the participants together with the annotations in Elan:

https://www.dropbox.com/sh/5fxo9kax84n42mr/AACnDs35NqhaitucZu3-TdUea?dl=0

Procedure

The study was conducted through the videoconferencing program Zoom. Before participating in the experiment, participants were instructed to sit in a quiet room, preferably alone. Participants were then told that this thesis examined the audiovisual characteristics of nonverbal communication in an online context. However, to prevent participants from creating unwanted patterns of expectations, they were left unaware of the task that needed to be carried out. Participants were asked to sign an informed consent through Qualtrics. The consent provided a clear explanation about the research goal that they could leave the study at any time, that they were being recorded, and that their data would be stored anonymously. Furthermore, the consent form stated that the recorded videos would be deleted within a time frame of six months. The informed consent, the questionnaire and the debriefing were translated into Dutch and Spanish (Appendix C).

Each participant was instructed to sing a song for two minutes. This song was based on their own choice and in their native language. They were told that they needed to sing this song in front of a small audience which consisted of two people. The audience consisted of strangers. Their cameras were turned off during the whole meeting. After two minutes, the participants were told to stop singing. Afterwards, participants were instructed to fill in a questionnaire concerning their susceptibility to embarrassment through Qualtrics. The feeling of embarrassment may have caused some discomfort. Therefore, participants were shown a funny video clip about singing to reduce any discomfort they might have experienced. After filling in the survey and watching the video, participants were thanked and debriefed during the meeting.

Results

Nonverbal expressions

  Culture. In total, 879 different expressions of embarrassment were annotated. Of

these annotations, 61% was measured for Dutch participants and 39% for Spanish

participants. The total number of expressions measured during a singular Zoom session

ranged from one to 44 for the Spanish participants, with an average score of 17 expressions.

For the Dutch participants, the total number of expressions ranged from one to 43 per Zoom

session, with an average score of 11 expressions. Figure 2 displays a comparison of the total

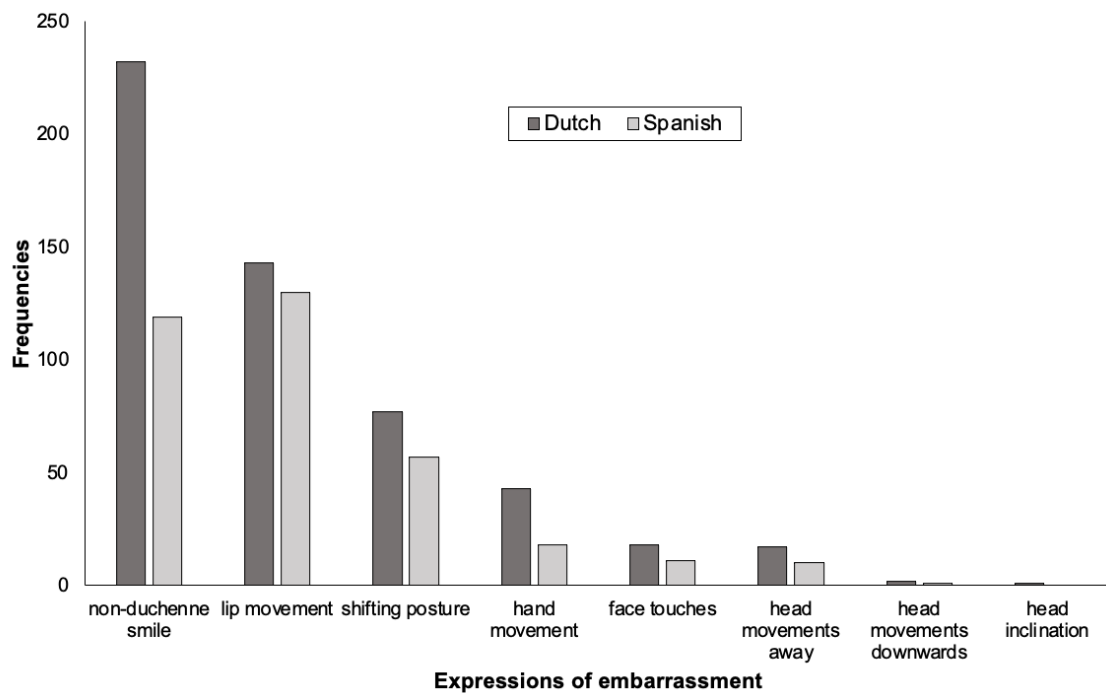amount of expressions observed in both cultures.

Figure 2. Frequencies of expressions of embarrassment for Spanish and Dutch participants

  To test whether there was an association between culture and the level of expressions

of embarrassment, a chi-square test was performed. The level of expressions of

embarrassment was low (1 to 12 observed expressions) or high (23 to 44 observed

behaviors). Nineteen Spanish participants ($M = 6.84$, $SD = 3.86$) and nine Dutch participants

($M = 6.78$, $SD = 4.41$) showed a low number of expressions of embarrassment. A high

number of expressions of embarrassment was shown by 21 Dutch participants ($M = 22.48$, S

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D = 9.22) and 11 Spanish participants (M = 19.64, SD = 9.46). See Table D1 (Appendix D)

for the descriptive statistics regarding the number of expressions of embarrassment among

Dutch and Spanish participants. The chi-square showed a significant association between

culture and level of expressions of embarrassment, $\chi2$ (1) = 6.696, p =.010, meaning that

there is an association between the Dutch and Spanish culture and their expressed

embarrassment. Dutch participants displayed more expressions of embarrassment than

Spanish participants[1] (see Figure D1, Appendix D).

  Age. In total, 879 expressions were observed. Of these expressions, 63% was

measured for college students (i.e., young adults) and 37% for adults (i.e., older adults). The

total number of expressions ranged from one to 44 for students with an average of 18

expressions. For the adults, this total number of annotations ranged from one to 43, with an

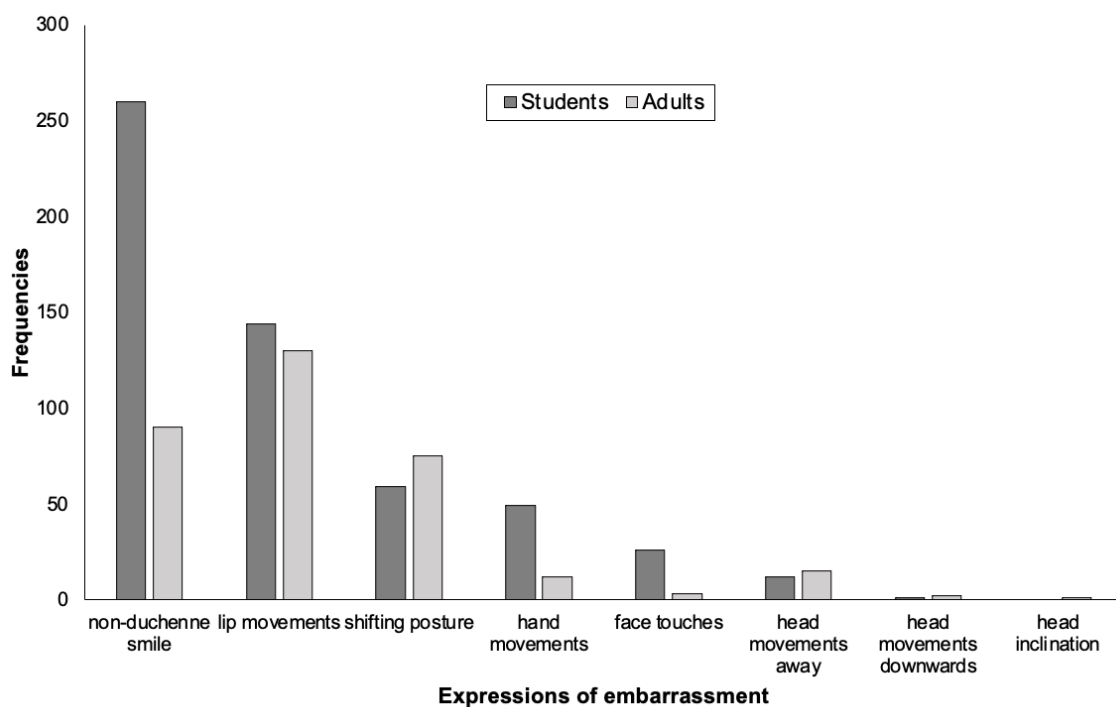average of 11 expressions per Zoom session. Figure 3 displays a comparison of the total

Figure 3. Frequencies of expressions of embarrassment across college students and adults

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[1] The significance of the chi-square strongly depends on how the data is organized. For example, when dividing the expressions into two groups of 1 to 22 expressions and 23 to 44 expressions, no significance was found.

number of different expressions observed within both age groups.

To test whether there is an association between age and level of expressions of embarrassment, a chi-square test was performed. The level of expressions of embarrassment was low (1 to 12 observed expressions) or high (23 to 44 observed behaviors). Eight of the 30 college students (*M* = 6.63, *SD* = 4.37) and 20 of the 30 adults (*M* = 6.90, *SD* = 3.91) showed a low number of embarrassed expressions. Only ten adult (*M* = 19.00, *SD* = 9.10) and 22 college students (*M* = 22.64, *SD* = 9.30) displayed a high number of embarrassment expressions. Table D1 (Appendix D) displays the descriptive statistics of the number of expressions of embarrassment among college students and older adults.

The chi-square showed that there was a significant association between age and level of expressions of embarrassment, χ^2 (1) = 9.643, *p* =.002, meaning that college students (i.e., young adults) display more expressions of embarrassment compared to adults (see figure D2, Appendix D).

Culture and age. However, as the significance of the chi-square strongly depends on how the data is organized and as a chi-square is a non-parametric test, a Poisson regression was also performed. As overdispersion of the data occurred, a negative binomial regression was conducted rather than a Poisson regression to examine the relation of age and nationality to the counted expressions of embarrassment. The likelihood ratio was χ^2 (2) = 14.854, *p* = .001. The negative binomial regression showed that both nationality and age were significant predictors of the counted expressions of embarrassment, B = .447, SEB = .16, *p* = .007, 95% CI [.121, .774] and B = -.532, SEB = .16, *p* = .001, 95% CI [-.858, -.205]. Having a Dutch nationality was associated with 1.56 times more expressions of embarrassment than having a Spanish nationality. Therefore, no support was found for the first hypothesis that collectivistic cultures display more signs of embarrassment online than individualistic cultures. The binomial regressions showed, in fact, the opposite: individualistic cultures

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display more signs of embarrassment through a videoconferencing program than

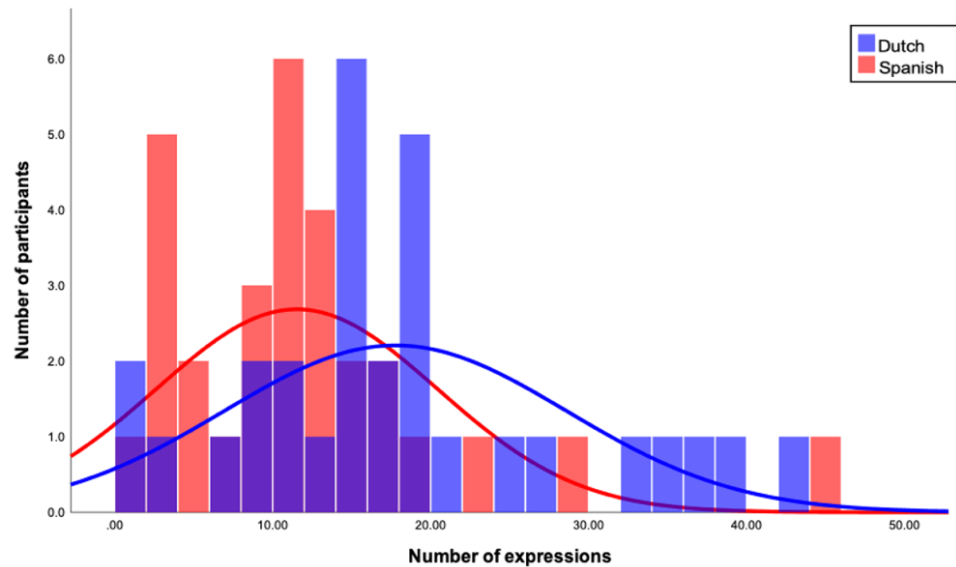collectivistic cultures. Figure 4 illustrates this result:

Figure 4. Histogram for Spanish and Dutch participants and their number of expressions

Also, being an adult (i.e., older adult) was associated with 0.60 times fewer expressions of

embarrassment than being a college student. Thus, the hypothesis that college students

display more signs of embarrassment online than adults is supported. Figure 5 illustrates this
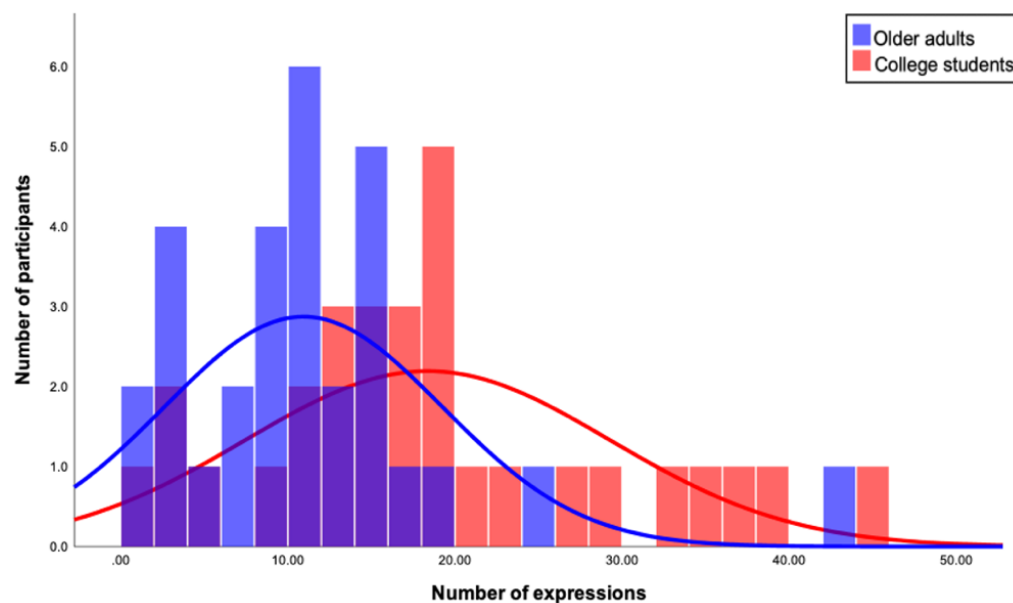
result:

Figure 5. Histogram for adults (i.e., older adults) and college students and their number of expressions

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Susceptibility to embarrassment

To test the hypothesis whether Spanish participants have a higher susceptibility to embarrassment than Dutch participants and whether college students have a higher susceptibility to embarrassment than adults, a Factorial ANOVA was performed. The different scores could range from 25 to 175. The mean of the total scores was 85.48 (SD = 22.30), indicating that, on average, participants rated their susceptibility to embarrassment as neutral. Table E1 (Appendix E) displays the descriptive statistics of the susceptibility to embarrassment scores among the four different conditions. The susceptibility to embarrassment scale had good reliability, α = .74. All assumptions for normality (z-scores skewness/kurtosis of participants with a Dutch nationality = 1.22 and 0.15, z-scores skewness/kurtosis of participants with a Spanish nationality = 0.63 and -0.21, z-scores skewness/kurtosis college students = 0.04 and 0.48, z-scores skewness/kurtosis adults = 1.14 and -1.04) and equal variances are met as the variance ratio was 1.87.

The ANOVA showed that the main effect of susceptibility to embarrassment for nationality was not significant, $F(1, 56)$ = .006, p = .939, $\eta_{partial}^2$ = .000. Participants with a Spanish nationality scored slightly higher (M = 85.70, SD = 25.76) than participants with a Dutch nationality (M = 85.26, SD = 18.65), but not significantly so, the hypothesis that Spanish participants have a higher susceptibility to embarrassment than Dutch participants is not supported (see Appendix E, Figure E1).

There was a significant main effect of susceptibility to embarrassment within different age groups, $F(1, 56)$ = 4.111, p < .047, $\eta_{partial}^2$ = .068. Students scored higher (M = 91.40, SD = 24.61) than adults (M = 79.73, SD = 18.38). So, the hypothesis that college students have a higher susceptibility to embarrassment than adults is supported (See Appendix E, Figure E2)

No significant interaction effect was found between the participants' age and the participants' culture $F(1, 56) = .706$, $p = .404$, $\eta_{partial}^2 = .012$.

Discussion and conclusion

Since embarrassment had never been elicited in an online environment, the first aim of this thesis was to investigate whether embarrassment can be elicited in an online environment and how this would manifest itself. The results of this study show that it is, in fact, possible to elicit expressions of embarrassment through Zoom and especially through singing. More notably, one can even conclude that embarrassment through Zoom manifests itself in the same expressions that would be observed in face-to-face settings.

The observed nonverbal expressions reflect those reported by Keltner and Buswell (1997) and Costa et al. (2001), who elicited embarrassment by showing erotic material. However, the frequency of each specific behavior differed. Especially non-Duchenne smiles, lip movements and a shift in posture were frequently observed expressions. Head movements (head movements pointing away from the camera, head movements pointing downwards and head inclinations) were among the infrequently observed expressions in our dataset. This could be because participants were instructed to sing a song while being able to see and read the lyrics. Participants were, therefore, mainly focusing their gaze on the lyrics (i.e., their computer screen). Furthermore, participants' hand movements were also not always visible and, therefore, not as frequently observed. Some of these expressions occurred directly after participants made mistakes with the lyrics or rhythm of the song, providing further support for the view that the present experimental design indeed triggered these embarrassing related behaviors.

The second aim was to investigate the extent to which online embarrassment was determined by cultural differences. Some cultural differences were discovered. The most notable one being that Dutch participants displayed more signs of embarrassment than

Spanish participants. Interestingly, this finding was not in line with previous studies that

suggest that collectivistic cultures tend to show a higher level of embarrassment. These

previous studies emphasized that collectivistic cultures have more rules concerning the social

behaviors they must follow. As embarrassment is closely related to the fear of breaking the

social rules, they tend to experience it more frequently than in individualistic cultures

(Hofmann et al., 2010). Furthermore, according to Wan (2013), collectivistic cultures tend to

be more concerned about their face as they will try to avoid public embarrassment, which is

less crucial for individualistic cultures (Oetzel et al., 2001).

No support was found for the hypothesis that collectivistic cultures display more signs

of embarrassment than individualistic cultures (H1). One reason for this conflicting outcome

could be that singing in particular, for the Dutch culture, is considered an embarrassing task

and not so much for the Spanish culture. Furthermore, some recognize the Netherlands to be

a Calvinistic culture, meaning that they can be restrained in their emotions and behavior. For

example, a frequently used Dutch saying is: "doe maar normaal, dan doe je al gek genoeg"

meaning that when you act normal, you already act crazy enough (Polder, 2009). On the

other hand, the Spanish culture is more expressive in their behavior, which could be another

possible reason for this conflicting outcome (Jenvdhanaken & Rangponsumrit, 2020). Based

on these results, it could be concluded that the Dutch culture display more signs of

embarrassment online when their task is to sing a song.

The second hypothesis expected that Spanish participants would have a higher

susceptibility to embarrassment compared to Dutch participants (H2). However, no support

was found for this hypothesis either. Dutch and Spanish participants did not show differences

with respect to their susceptibility to embarrassment. This is an interesting finding because

they did differ in their expressions of embarrassment. This could be explained by the fact that

when thinking about an embarrassing act, the feelings of embarrassment could be less intense

because it is not experienced at that particular moment. However, it could also be possible that participants potentially have misjudged themselves. It should also be noted that the susceptibility to embarrassment scale was translated from English to Dutch and Spanish, which could potentially have impacted the outcome as well.

The third aim was to investigate how age was related to online embarrassment. It was hypothesized that college students (i.e., young adults) would display more signs of embarrassment online than adults (i.e., older adults) (H3). This hypothesis was supported. This finding is in line with the Positivity principle. Orth et al. (2010) suggested that the Positivity principle comes in place when pleasant and positive emotions increase, whereas the unpleasant emotions decrease during one's lifespan. As embarrassment is considered an unpleasant emotion, it also decreases with age, even online. Furthermore, are the results of this study also in line with the Maturity principle. As one gets older, they will grow more mentally healthy (Wortman et al., 2012). As people age, they will improve several personality traits that will be beneficial to perform adult social roles (Van den Akker et al., 2014). Therefore, maladaptive emotions should decrease, whereas adaptive emotions should increase as one gets older (Orth et al., 2006).

Based on the literature mentioned above, it was also hypothesized that college students (i.e., young adults) have a higher susceptibility to embarrassment than adults (i.e., older adults) (H4). This hypothesis was supported. Therefore, this hypothesis is also in line with the Positivity and Maturity principle. Based on the results and previous research, it can be concluded that adults show fewer signs of embarrassment online and have a lower susceptibility to embarrassment than young adults.

Limitations and future research

This thesis has several limitations. First and foremost, this thesis is considered a cross-cultural study. The population segment were college students (i.e., young adults) and

adults (i.e., older adults). However, there is a possibility that Spanish college students are more internationally based, which may not be a good representation of the sample. This is because young Spanish adults often move abroad hoping for better job opportunities since they are aware of the poor labor market in Spain. Therefore, this thesis also implemented the population segment of older adults in order to solve this problem. However, further research is required to focus on different individualistic and collectivistic cultures and different emotions. It is important to get more knowledge about the extent to which other individualistic and collectivist cultures differ in their emotions online.

The second limitation concerns the quality of the Zoom videos. As this study was conducted through Zoom, unstable internet connections did occur. This sometimes resulted in bad quality videos or that some videos did not reach the full two minutes. It could be possible that potential data was lost or misinterpreted (e.g., non-Duchenne smiles) due to the low-quality videos. Also, because this thesis was conducted online, not all body parts were always visible (e.g., hand movements. Therefore, future research could focus more on high-quality videos and make sure that the hands, as well as the entire body posture, are visible. It is also important to provide participants with a rotating chair, as chair rotations were frequently observed in the study of Costa et al. (2001).

The third limitation concerns the actual task participants performed in order to elicit expressions of embarrassment. It is clear that online embarrassment can be elicited through singing. However, it is uncertain whether the obtained results would have been the same if the embarrassing task would be of a different nature. As Dutch participants find it more embarrassing to sing compared to Spanish participants, future research could focus on different tasks such as showing erotic material (Costa et al., 2001) or providing embarrassing scenarios (Sabini et al., 2000) that might elicit embarrassment in different ways to see to which extent there is a difference in performing different embarrassing tasks.

The fourth limitation of this thesis is that we did not explicitly ask whether participants felt embarrassed during the experiment, so we have no data on the subjective experience. In future experiments, they should be asked whether they felt embarrassed after performing the task to obtain their subjective experience.

The last limitation of this study, which is also important to point out, concerns that this study was conducted within a WEIRD (Western, educated, industrialized, rich, and democratic) population. However, WEIRD populations are primarily used in research, resulting in a challenge to understand human behavior and psychology, as the WEIRD population is not a good representation of the world's cognitive diversity (Henrich, Heine & Norenzayan, 2010). Therefore, future research should focus on cross-cultural studies from non-WEIRD populations and focus on whether the extent of online embarrassment is the same in a non-WEIRD population.

Implications

Theoretical implications. These findings contribute in several ways to our understanding of the self-conscious emotion embarrassment online. As embarrassment has never been elicited online, this thesis provides new insights into the effects a videoconfercing program has on this self-conscious emotion. It sheds light on our understanding of how others are perceived online and how to read the emotions and feelings of others across different cultures and ages online. Although it had been assumed in the cross-cultural literature that people from collectivistic cultures tend to be more embarrassed than individualistic cultures, this thesis provided evidence that this might not be the case in an online environment. Furthermore, the findings of this thesis extend the Maturity and Positivity Principle by demonstrating that embarrassment, even online, will decrease with age.

Practical implications. These findings may also help to understand general communication and its effects through a videoconferencing program. During the COVID-19

pandemic, many companies have switched to an online environment where video conferencing takes place on a daily basis. However, companies should consider that there is a possibility that, for example, clients or business partners might get embarrassed online. Therefore, companies should also be conscious of their communication through, for example, Zoom and convey the message as clear as possible while attempting to avoid uncomfortable situations or put the conversation partner in an uncomfortable position. Especially, internationally-based companies should be cautious when the conversation partner is a young adult from The Netherlands because they may display more signs of embarrassment. To summarize, these findings suggest that even with a distance and a screen between conversation partners, people can still display signs of embarrassment.

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Appendix A

Coding scheme and examples

Table A1

Coding scheme

Coding	Explanation and examples	Frequency
Lip movements	This includes lip bites, lip pucker (the lips are being squeezed together), lip funnel (the lips are turning into an o shape), lip corner depress (lip corners are pressed downwards), lip press, lip wipe and lip suck.	273
Non-Duchenne smile	The lip corner is pulled upwards without smiling with the eyes.	351
Head movements downwards	The head is pointed downwards.	3
Head movements away	The head is moving in a lateral way. If the head was moving on the beat, it was not annotated.	27
Head inclination	The head is leaning forward as a result of a bent neck.	1
Face touches	Hand movements that are touching the face.	29
Shifting posture	Changing the position in the chair. This also included, moving closer to the computer screen, and raising shoulders. This did not include moving the arm to scroll down to read the lyrics.	134
Hand movements	Movements of the hands that are not directed towards the face. If the hands were moving on the beat (i.e., like dancing), it was not annotated.	61

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Figures A1-8

Examples of the observed nonverbal behaviors

Figure A1. Examples of lipmovements (lip corrner depress and lip wipe)

Figure A2. Examples of a non-Duchenne smile

Figure A3. Example of a headmovement downwards

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Figure A4. Examples of headmovements pointing away from the camera
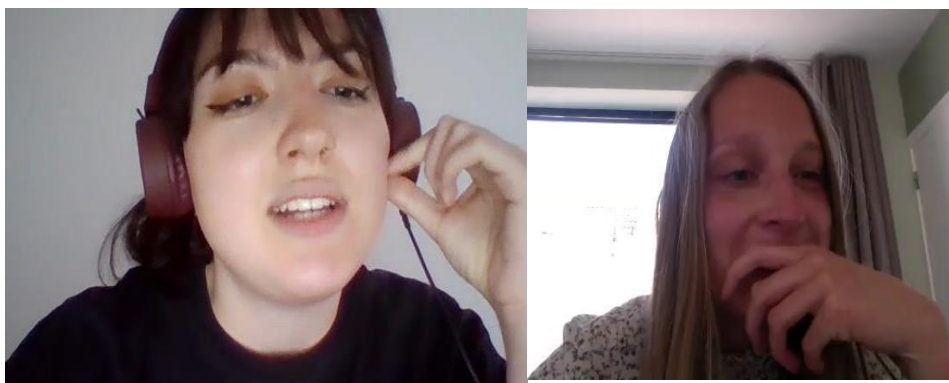

Figure A5. Example of a head inclination

Figure A6. Examples of face touches

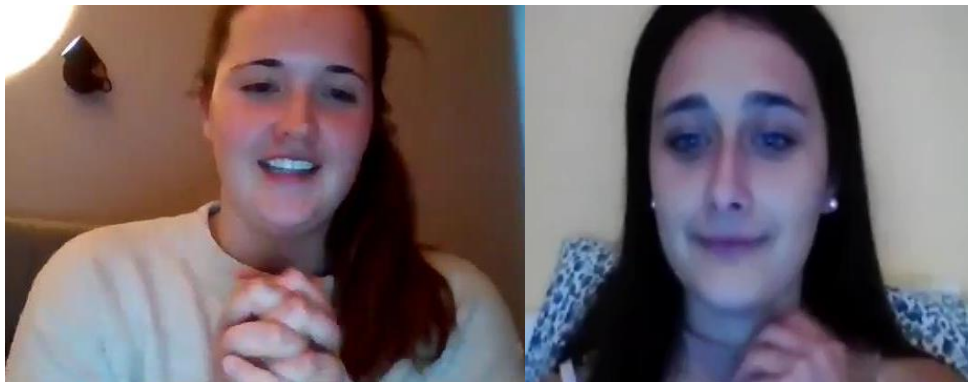*Figure A7.* Example of a posture shift

Figure A8. Examples of hand movements

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Appendix B

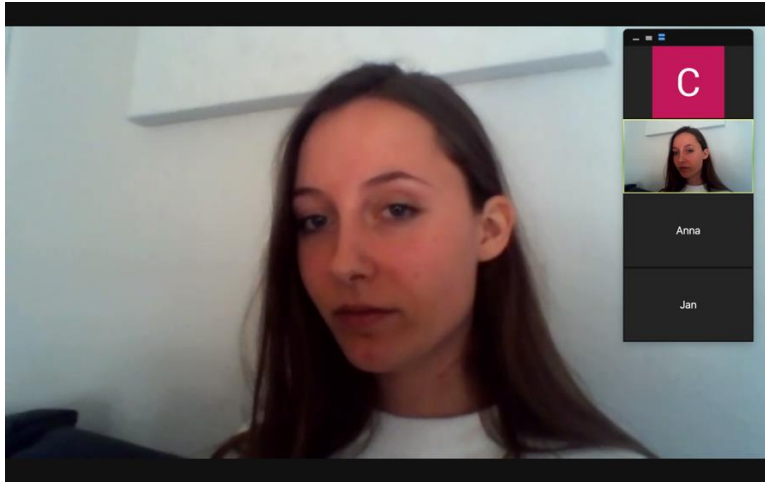Example of the audience and YouTube links

Figure B1. Example of Jan and Anna joining the Zoom session as audience

YouTube links

YouTube link for the Dutch participants

It was recommended to watch until 3.35

https://www.youtube.com/watch?v=KyO0U4fQ_fY

YouTube link for the Spanish participants

https://www.youtube.com/watch?v=N4bY0SkJfp8

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Appendix C

Informed consent, Survey Questionnaire, and debriefing

Instructions and informed consent in Dutch

Beste participant,

Bedankt voor het deelnemen aan deze studie. Ik ben student aan de opleiding Informatie- en Communicatiewetenschap aan Tilburg University. Door de coronacrisis is het belang van online-communicatiemiddelen zoals Zoom sterk toegenomen. Er is nog niet veel bekend over de verschillen en overeenkomsten tussen verbale en non-verbale communicatie in online en offline contexten. In deze scriptie wordt dan ook experimenteel onderzoek gedaan naar audiovisuele kenmerken van non-verbale communicatie in een online context. Dit wordt in dit geval via Zoom onderzocht.

Het onderzoek bestaat uit twee delen. In het eerste deel moet u een opdracht uitvoeren voor gedurende 2 minuten. De onderzoeker zal aangeven wanneer de tijd erop zit. In het tweede deel van het onderzoek wordt u gevraagd om een vragenlijst in te vullen via Qualtrics. Deze vragenlijst bestaat uit enkele demografische vragen gevolgd door enkele vragen over emoties. Achteraf krijgt u een kort YouTube filmpje te zien. Het onderzoek zal ongeveer 15 minuten van uw tijd in beslag nemen. Verder maakt u kans op een waardebon van Bol.com ter waarde van 15 euro.

Tijdens het onderzoek wordt u opgenomen middels uw eigen webcam. Deze gegevens worden vertrouwelijk en zorgvuldig behandeld. Ook worden deze bewaard in een veilige omgeving en alleen voor dit onderzoek gebruikt. De enige personen die toegang hebben tot deze data zijn de onderzoeker zelf, en de beide docenten die deze thesis begeleiden. De video's worden zo spoedig mogelijk na het afronden van dit onderzoek verwijderd. Indien u verdere vragen heeft over dit onderzoek, kunt u mij raadplegen op het volgende email adres: c.cordes@tilburguniversity.edu.

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<u>Toestemming</u>

Wilt u graag deelnemen aan deze studie, gelieve de volgende tekst zorgvuldig te lezen:

-Ik ben voldoende ingelicht over het onderzoek en de methode van het onderzoek.

-Ik ben op de hoogte dat dit onderzoek geheel vrijwillig is en dat ik op elk moment kan

stoppen met dit onderzoek zonder daarbij een reden te geven.

-Ik ben ervan op de hoogte dat ik word opgenomen en dat de data wordt gebruikt voor dit

onderzoek.

      Gaat u ermee akkoord dat u alle relevante informatie over het onderzoek heeft

ontvangen en stemt u ermee in om aan het onderzoek deel te nemen?

Instructions and informed consent in Spanish

Estimado participante,

Antes de nada quiero agradecerte tu participación en este estudio en el que voy a basar mi

tesis. Mi nombre es Carmen Cordes y curso un máster en Ciencias de la Comunicación en la

Universidad de Tilburg, Holanda.

      El Coronavirus ha destacado la importancia del teletrabajo y las comunicaciones

telemáticas, como por ejemplo en la utilización de las plataformas ZOOM, SKYPE, etc. Aún

no hay mucha información sobre las diferencias o semejanzas de la comunicación *verbal/no-*

verbal en dichas plataformas. Durante la investigación se hará un estudio de las

características *no-verbales en* las comunicaciones telemáticas. En este caso utilizaremos la

plataforma Zoom.

      El ejercicio a realizar consta de tres partes, con una duración total de

aproximadamente 15 minutos.

–   La primera parte consiste en ejecutar una acción durante dos minutos. El investigador le

avisará cuando haya finalizado el tiempo.

–   En la segunda parte se le pedirá rellenar un cuestionario a través de Qualtrics. Este

cuestionario consistirá en unas preguntas de tipo demográfico y otras referentes a las emociones y se le mostrará un video corto en YouTube.

La cámara Web de su ordenador grabará estas actividades. A parte de esto le puedo tocar un bono de 15 euros de Amazon.es.

Estos datos serán tratados confidencialmente y solo serán utilizados para esta investigación. Las únicas personas que tendrán acceso a esto datos serán el investigador y los dos profesores encargados de la tesis. Las grabaciones serán eliminadas una vez terminada esta investigación. Si tiene alguna duda, puede contactar conmigo en esta dirección de E-mail: c.cordes@tilburguniversity.edu

<u>Autorización</u>

Para participar en este estudio lea atentamente el siguiente texto:

-Estoy informado sobre la investigación y el método de la misma.

-Participo en la investigación libremente y puedo dejarla en cualquier momento.

-Soy consciente de que se me grabará y que dichas grabaciones serán utilizadas para la investigación.

Estoy de acuerdo en haber recibido toda la información relevante a la investigación y en participar en la misma.

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Table C1

Survey Questionaire

Component	Item (Dutch)	Item (Spanish)
Question 1 Demographics	Wat is uw geslacht? • Man • Vrouw • Zeg ik liever niet • Anders, namelijk,…	Sexo • Hombre • Mujer • No contesta • Otro
Question 2 Demographics	Wat is uw leeftijd?	Edad:
Question 3 Demographics	Wat is uw nationaliteit	Nacionalidad:
Question 4 Demographics	Wat is uw huidige opleiding? • Geen diploma • Basisonderwijs • VMBO, HAVO, VWO onderbouw, MBO1 • HAVO,VWO,MBO2-4 • Bachelor Master • PhD • Zeg ik liever niet • Anders	Estudios: • Sin estudios • Primaria • Secundaria • Bachillerato • FP • Universitario/Master • Doctorado • No contesta • Otro
Question 4 Demographics	Wat is uw huidige werksituatie? • Vast dienstverband • Parttime dienstverband • Werkloos • Zelfstandig • Student • Gepensioneerd • Zeg ik liever niet • Anders	Trabajo: • Trabajo completo • Media jornada • En paro • Autonomo • Estudiante • Jubilado • No contesta • Otro

Component	Item (Dutch)	Item (Spanish)
Question 5 SES	Ik voel mij onzeker over mezelf	Me siento inseguro de mi mismo
Question 6 SES	Ik voel mij niet op mijn gemak in het openbaar tenzij mijn kleding, haar ect. precies goed zit	Me siento inseguro en público a menos que mi pelo, ropa, accesorios...esten perfectos
Question 7 SES	Ik voel mij ongemakkelijk in een groep met mensen	Me siento inseguro cuando estoy en un grupo de gente
Question 8 SES	Ik vind het niet erg om in het middelpunt van de belangstelling te staan	No me importa ser el centro de atención
Question 9 SES	Ik geef er waarschijnlijk te veel om hoe ik bij andere overkom	Me importa mucho como los otros me ven
Question 10 SES	Ik voel mij onbekwaam als ik met iemand praat die ik net heb ontmoet	Me siento inseguro con personas que acabo de conocer
Question 11 SES	Ik voel mij onhandig in sociale situaties	Me siento torpe en situaciones de ámbito social
Question 12 SES	Ik voel mij ongemakkelijk als ik het huis verlaat als ik er niet op mijn best uitzie	Me siento inseguro si salgo de casa sin estar perfectamente conjuntado
Question 13 SES	Soms voel ik me gewoon blootgesteld/kwetsbaar	En ocasiones me siento expuesto/ vulnerable
Question 14 SES	Ik voel me vernederd als ik een fout maak voor een groep	Me siento humillado si cometo un fallo a la vista de un grupo
Question 15 SES	Ik raak zenuwachtig als ik voor een groep moet spreken	Me pongo nervioso si tengo que hablar en público
Question 16 SES	Ik voel me vaak emotioneel blootgesteld in het openbaar en met groepen mensen	Me siento emocinalmente expuesto cuando estoy con un grupo de gente
Question 17 SES	Het is verontrustend om in het middelpunt van de belangstelling te staan	No me gusta ser el centro de atención

Component	Item (Dutch)	Item (Spanish)
Question 18 SES	Ik word gespannen als ik eraan denk om zelf een presentatie te moeten maken	Me siento tenso si tengo que hacer una presentación en solitario
Question 19 SES	Ik heb mij beschaamd en vernedert gevoelt om een kleine gênante dingen	Me siento avergonzado por ridiculeces sin importancia
Question 20 SES	Ik ben erg bang om in het openbaar fouten te maken	Tengo miedo a cometer errores en público
Question 21 SES	Ik hou er niet van om in mensenmassa's te zijn	No me gusta estar entre una multitud
Question 22 SES	Ik bloos niet gemakkelijk	No me sonrojo facilmente
Question 23 SES	Ik maak me vaak zorgen dat ik mijzelf voor schut zet	Me preocupa parecer estúpido
Question 24 SES	Ik voel me zo kwetsbaar	Me siento vulnerable
Question 25 SES	Ik maak mij zorgen over wat anderen van mij denken	Me preocupa lo que otros piensen de mi
Question 26 SES	Ik ben bang dat de dingen die ik zeg stom zullen klinken	Tengo miedo a que lo que diga parezca estúpido
Question 27 SES	Ik maak me zorgen over dat ik mezelf belachelijk maak	Me preocupa quedar mal
Question 28 SES	Wat andere mensen van mij vinden, is erg belangrijk voor mij	Me importa mucho lo que otros piensen de mi
Question 29 SES	Ik geneer mij niet snel	No me avergüenzo rápido

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Debriefing in Dutch

Het doel van dit onderzoek was om te kijken in hoeverre een gevoel van schaamte kon worden opgewekt met zingen. Schaamte werd gemeten op basis van non-verbale gedragingen zoals bijvoorbeeld gezichtsuitdrukkingen. Ook werd er gekeken of deze non-verbale gedragingen verschillen in andere culturen. Verder werd er ook onderzocht of er een verschil was in de mate waarin schaamte wordt uitgedrukt door jongere en oudere deelnemers.

Alle participanten kregen dezelfde opdracht. Indien u verdere vragen heeft over dit onderzoek kunt u mij contacteren op: c.cordes@tilburguniveristy.edu

Debriefing in Spanish

La razón de esta investigación es para ver en cuanto el nivel de vergüenza se sienta cantando. La vergüenza será medida en comunicación verbal in non-verbal. También se va a medir si se diferencia entre culturas. También se investigará si hay una diferencia en vergüenza comparado en participantes jóvenes y mayores. Todos los participantes recibirán la misma tarea. Si tiene preguntas sobre la investigación me puede contactar en:

c.cordes@tilburguniversity.edu

Appendix D

Additional information of expressions of embarrassment

Table D1

Descriptive statistics for nationality and age showing the mean and standard deviation of the number of expressions of embarrassment ranging from 1-44

Nationality	Low number of expressions of embarrassment		High number of expressions of embarrassment	
	M	*SD*	*M*	*SD*
Dutch participants	6.78	4.41	22.48	9.22
Spanish participants	6.84	3.86	19.64	9.46
Age groups				
College students	6.63	4.37	22.64	9.30
Older adults	6.90	3.91	19.00	9.10

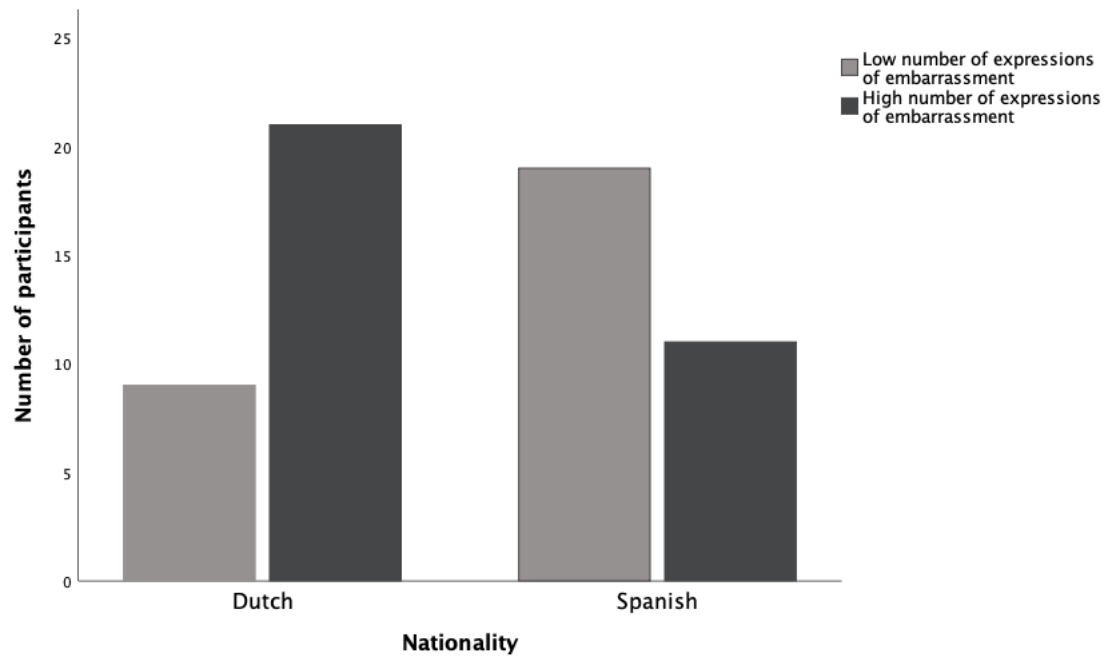EMBARRASSMENT THROUGH ZOOM

Figure D1. Bar chart for the number of participants showing a low or high number of embarrassment expressions per culture
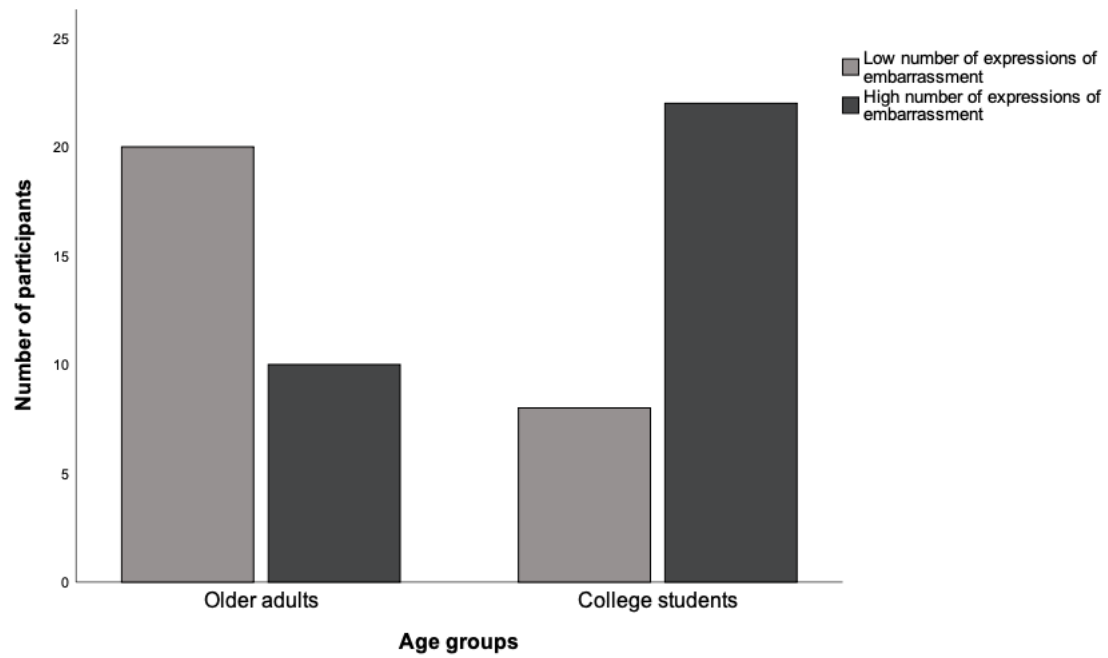
EMBARRASSMENT THROUGH ZOOM

Figure D2. Bar chart for the number of participants showing a low or high number of embarrassment expressions per age group

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Appendix E

Additional information of susceptibility to embarrassment

Table E1

Descriptive statistics for nationality and age showing the mean and standard deviation of the susceptibility to embarrassment scores ranging from 25 to 175 measured on a 5-point Likert scale

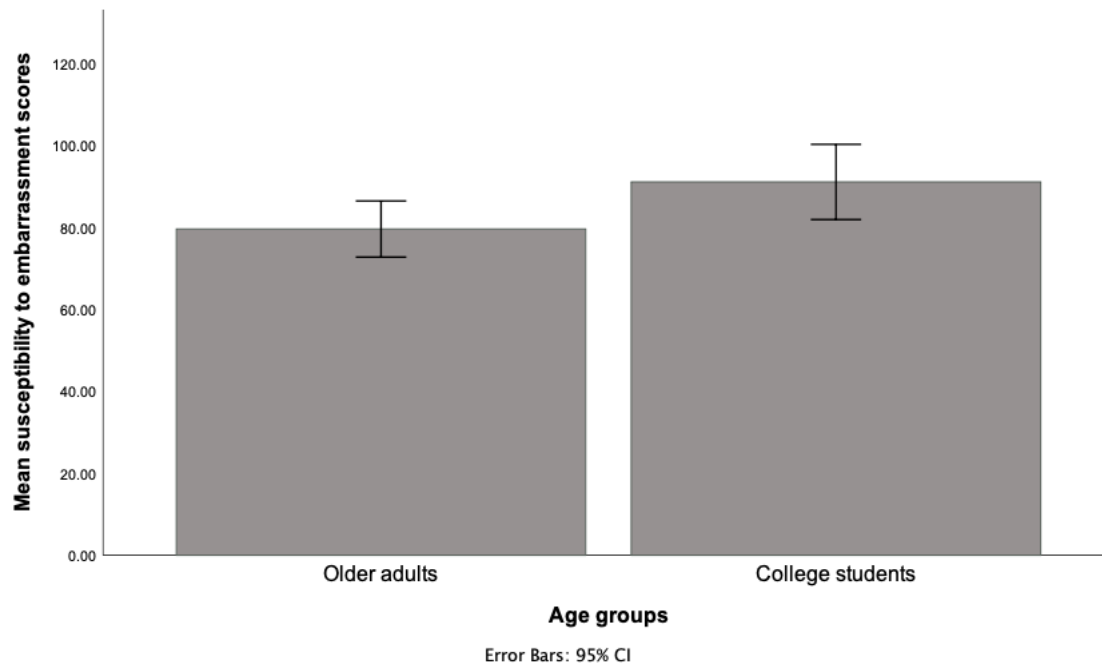|	Susceptibility to embarrassment	
	M	*SD*
Dutch participants	85.26	18.65
Spanish participants	85.70	25.76
College students	91.40	24.61
Older adults	79.73	18.38

EMBARRASSMENT THROUGH ZOOM

Figure E1. Bar chart for the mean of the susceptibility to embarrassment scores per age group
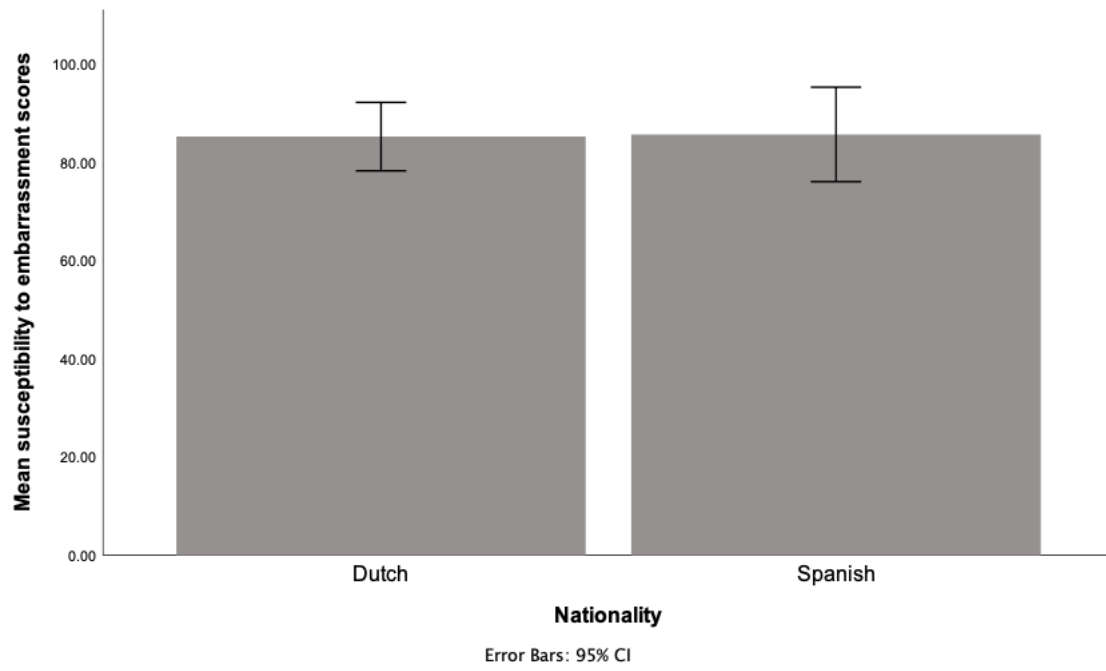
EMBARRASSMENT THROUGH ZOOM

Figure E2. Bar chart for the mean of the susceptibility to embarrassment scores of Spanish and Dutch participants