Bachelor's Thesis

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We shall see: the use of English as a Lingua Franca and the effect of visibility during collaborative tasks in an online video conference.

Abstract

International businesses are increasingly faced with challenges connected to employees working remotely or from home. These organisations continuously encounter situations in which individuals who speak different languages and have varying cultural backgrounds need to communicate by videoconferencing. In many of those cases, a common shared language and other accommodating strategies are adapted to smoothen this process. The successfulness of interactions is for example mediated by phenomena like syntactic alignment and priming. In certain circumstances, these influence and are in turn influenced by factors like communicative success, prosocialness and likeability. In the present study, the effects of visibility and English as a Lingua Franca (ELF) speakers' linguistic background with regard to aforementioned variables, is further investigated in the setting of an online Zoom meeting. Subjects took part in an experiment in which they performed a collaborative spot-the-difference task and subsequently evaluated their partners and the outcomes of their joint effort. While the results were generally in line with hypotheses, the only significant difference was found within the effects of visibility on perceived communicative success. When participants were able to see their interlocutor, they rated their communication as more successful than the pairs in the non-visible group did. So it appears usage of a camera in online interactions could positively influence the prospect of positive outcomes of communication efforts.

Introduction

When the global Corona crisis started in the first couple of months in 2020, we did not yet fully grasp how much the world would change. For businesses, governments, in education and NGO's alike, the daily course of events changed dramatically. Metaphorically speaking, all of this happened overnight and not without consequences. While in the past multiple platforms were developed to facilitate online interaction and meetings, these were never as intensively used as they currently are. A prime example of a business invested in this market is Zoom, which saw its potential skyrocket last year. In December 2019 Zoom counted 10 million daily users, fast forward 3 months and the estimate was around 200 million a day (Yuan, 2020). This could be attributed to the effects of an extraordinary event like the pandemic, but it seems like working remotely or from home is becoming the new status quo.

Online interaction is evidently more frequently used in a corporate setting as well. Online learning and smart working has many positive consequences (e.g. for the environment), but also has its implications. There already have been cases of professionals who got diagnosed with a new condition called 'Zoom fatigue', which is the discomfort and fatigue resulting from too long and frequent videoconferencing (Riva, Wiederhold & Mantovani, 2021). They even suggest this might be due to a lack of nonverbal cues resulting in misunderstandings. The most obvious nonverbal element that is often missing in an online setting, is the visibility of interlocutors when they keep their camera turned off. Anecdotal and scientific evidence leads us to believe that this limitation severely influences the outcomes of communication. For instance, visibility appeared to affect learning successes of students in a study by Wang (2004). When students were more visible in various online communication settings, students' grades were higher overall. Just like in educational sciences has this phenomenon been studied in the field of Psychology. Where visibility during therapy seems to severely influence the effectiveness and outcomes of the relationship process. Especially psychologists themselves were experiencing difficulty adapting to computer mediated therapy according to a literature review by Cataldo, Chang, Mendoza and Buchanan (2021). Psychologists felt being unable to utilize visible cues in online interaction limited their ability to be trustworthy and empathic, complicating their relationship building strategies.

When communicating in an online context, certain aspects of a conversation are diminished. Visibility of your interlocutor is no issue in face-to-face interaction, but it could be during a video conference. Schweitzer, Walsh and Schweizer (2017) discovered that not being able to see a conversation partner in a setting where both were physically present, caused increased prosocial behaviour. This was presumably due to visible cues posing a

distraction from syntactic alignment and the lack of which might lead participants to try and compensate. In contrast, Schoot, Hagoort and Segaert (2019) found that presence of interlocutors did inspire more syntactic alignment, linked to a communicative goal of the primed speaker. They conducted a study in which they compared presence of an interlocutor and the effect on syntactic choices. In both previously mentioned studies physical presence was used, but these results have not yet been translated to an online context, in which physical presence is by definition not possible. Studies have used face-to-face, computer-human and even pre-recorded human stimuli. One could argue that seeing your interlocutor is one part of the online presence, so it will be interesting to see what the effects of this manipulation are. The use of computer mediated communication has especially increased for corporations operating in an international context. Companies that required their employees to travel could not expect this any longer and this might remain the case for the foreseeable future.

In international businesses, there often is a choice for using a Common Corporate Language and in most cases the obvious choice is to use English. This leads to employees who are non-native English speakers to use ELF. In a study by Van Mulken and Hendriks (2015), conversations between a native English speaker and a second language (L2) English speaker were compared to conversations between speakers only using ELF. By performing a spot-the-difference task, interlocutors' communication strategies were analysed alongside the effectiveness of communication. ELF proved to be less effective than using the first language of one of the subjects in a dialogue. But for an interaction between a first language (L1) speaker with an L2 speaker to be possible, interlocutors need to have at least a basic understanding of the other language. More often than not, it is impossible to choose the nationality of your interlocutor, like in an international business setting. Therefore, ELF is frequently adopted as the only valid option.

When using ELF to communicate, the native language of interlocutors influences accents. Accentedness in turn has been suggested to be an important predictor for prosocial behaviour (Chun & Kaan, 2020). They had participants (Korean L1 speakers) repeat sentences by ELF speakers with three types of accents; native (English), similar non-native (Korean) and different non-native (Indian). Effectively, an L2 speakers' native language could indirectly influence the outcome of conversations. However, it remained uncertain whether similar linguistic backgrounds cause a smoother conversation. In contrast to earlier belief, Suffill, Kutasi, Pickering and Branigan (2021) found more goal-directed alignment when they established their interlocutor was non-native. They explored this subject by using a route-giving task between ELF speakers with different linguistic backgrounds. Costa, Pickering and

Sorace (2008) did provide multiple reasons and hypotheses as to why L2-L2 interlocutors would have more communicative benefits compared to L1-L2 pairs. The main takeaway was that similarity in their first language could lead to more successful communication, although speech rate and proficiency are possible counteracting factors. These findings were supported by Trofimovich and Kennedy (2014), as in their study L2 interlocutors who were initially more similar were perceived to show more prosocial behaviour compared to lesser similar subjects. In the experiment L2-L2 interlocutors with a shared linguistic background had to perform several consecutive tasks in a mutually visible setting. They additionally claimed that certain aspects of likeability and communicative success also contributed to increased alignment.

So there seems to be some evidence for these two factors (i.e. interlocutor visibility and ELF speakers' native language) to predict the communicative success of online interactions. Several behavioural techniques, either conscious or unconscious, are used by interlocutors to help guide these interactions. Structural (syntactic) alignment – "the nonconscious tendency to reuse syntactic structures that were recently produced or comprehended" (Abrahams, Hartsuiker, De Fruyt & Bajo, 2019) – is one of those techniques that could lead to communicative success. Alignment in interaction has been found to positively influence mutual understanding and teamwork during a collaborative task (Trofimovich & Kennedy, 2014), which are strong determiners of communicative success.

Abrahams et al. (2019) studied the structural alignment between language usage of L2 and native language. An experiment in which participants paired with confederates were instructed to describe pictures to each other, while they manipulated whether the confederate used similar syntactic structure as the participants. They found that priming, which is the effect of repetitive stimuli leading to a stronger reaction, occurred just as much in respondents' L2 as in their L1, although they found less prosocial behaviour in L2 than in L1 when the confederate tried to align. In their experiments they established it was difficult to distinguish the cause for this effect, it could be due to less understanding of the language or a lack of regular use of it. On the contrary, Van Mulken and Hendriks (2015) predicted that just using L2 caused participants to use more prosocial behaviour and compensatory strategies (i.e. syntactic alignment). In another study, Chun, Barrow and Kaan (2016) found that native speakers of English used less syntactic priming while in conversation. This hypothesis was tested again using a similar design, but focussing on familiarity to an accent behaviour (Chun & Kaan, 2020). Between L2 speakers with a different L1, there initially was more use of syntactic priming, thus attempting to improve the prospect of having communicative success.

While it seems evident that (L1 or L2) language use affects syntactic alignment and prosocial behaviour, results are still inconclusive. Familiarity to an accent could influence the use of syntactic alignment within ELF. In which case the accentedness is mostly determined by a speakers' native language. This comes down in the end to comparing interlocutors having a shared L1 background to a mixed L1 background. Manipulating this variable in experiments could provide some valuable new insights regarding certain behaviour and evaluations by participants.

Another important predictor of structural alignment and related factors is likeability of an interlocutor (Abrahams et al., 2019). Whether the opposite causality could be hypothesized is not necessarily true for every situation. But it is likely that a likeable interlocutor would be preferred over an unlikeable person and could lead to an increased chance of communicative success. The effect of interlocutor likeability on structural alignment was examined by Heyselaar, Hagoort and Segaert (2017) by conducting two experiments. They approached this topic by comparing social factors and language mimicry with the stimulus by video in which they used avatars. They found that there is an effect between likeability and structural alignment, but not clearly in one direction. This is because the partner should not be too similar or too different, that would cause the highest priming. In another study, Heyselaar, Hagoort and Segaert (2017) provided evidence that human-like avatars in VR provide similar results to human-human alignment in interactions. Hence making the former study comparable to human interactions. Whether desired likeability by respondents influenced their syntactic alignment and its effect on likeability was studied by Schoot, Heyselaar, Hagoort and Segaert (2016). They found that, unaffected by (non-)evaluative settings, not aligning had a positive effect on likeability. They attribute this effect to creativity of language use and how this is valued in this context. From these results unfortunately they could not derive any relationship between alignment and likeability in either direction. Considering present study, in what way likeability relates to prosocial behaviour, (perceived) successfulness of task and communicative success should be further examined.

The scope of current study is on the crossroads of aforementioned stimuli, within the currently most relevant area of communication and interaction; video conferencing. It focusses on the collaborative nature and goal-oriented characteristics of video conferences in international businesses and in what way visibility influences the consequential factors of these interactions. On the basis of this presentation of previous research, findings and relevant theories, certain expectations can be set. Even though there are conflicting results regarding the effect of visibility, the expectation is that visibility of interlocutors will cause them to find

each other more likeable and show more prosocial behaviour, leading to a higher communicative and task success rate. Additionally, a mixed linguistic background is expected to lead to more priming and syntactic alignment, but it is impossible to predict in what way this affects the other dependent variables. There are too many conflicting findings and there is no definitive theory that connects L2 conversations to communicative success and its key factors. Summarizing, this leads to the following research questions:

What is, in the setting of a Zoom meeting, the influence of interlocutor visibility and ELF speakers' linguistic background on…

(1) likeability?
(2) prosocial behaviour?
(3) (perceived) successfulness of task?
(4) (perceived) communicative success?

Method

The study used an experimental (2x2) between subjects design in which participants were asked to perform a collaborative task while using ELF. They were invited to a single Zoom-meeting in which a spot-the-difference task was performed. Interlocutors were independently shown one of two images that contain ten differences between them to memorize and thereafter together had to distinguish these differences. Couples were created on the basis of the independent variables visibility (visible or non-visible) and ELF speakers' linguistic background (shared or mixed), which resulted in four groups: shared visible, shared non-visible, mixed visible and mixed non-visible. Participants were either native Dutch or native German speakers, so the shared linguistic background group consisted of both German-German couples and Dutch-Dutch couples, the group with mixed linguistic background were German-Dutch couples.

Variables & Instrumentation

As already mentioned, this study used interlocutor visibility and the ELF speakers' linguistic background as independent variables. Visibility was manipulated in the Zoom conversation by turning the camera of both interlocutors either off or on during the performance of the task. In the off-condition both respondents were able to communicate through speech, but were unable to see each other for the entirety of the experiment. The linguistic backgrounds of participants was separated into two groups. Carefully selected by the researchers, they made sure to evenly distribute participants over all groups. They drew their sample of either Dutch or German natives who spoke English as a Lingua Franca (their second language or L2) during the experiment.

Most of the dependent variables used in processing the results of our experiment were split up in several dimensions. The complete scales that were used in the questionnaire can be found in Appendix B. Both the pre-screening and questionnaire including these scales were translated to the participants' native language (i.e. Dutch or German). The primary variable communicative success¸ which captures the essence of the conversation and task performance, was measured by actual success in the form of countable differences spotted in the task. The perceived communicative success and perceived successfulness of task were broken down into 11 statements anchored by five-point Likert scales (e.g. 'completely disagree' – 'completely agree') (Messner, 2015). The reliability of 'perceived successfulness of task' comprising five items was acceptable: $\alpha = .79$. Consequently, the mean of all five items was used to calculate the compound variable 'perceived successfulness of task', which

was used in the further analyses. Reliability of 'perceived communicative success' comprising six items was acceptable: α = .73. That is why the mean of all six items was used to calculate the compound variable 'perceived communicative success', which was used in further analyses. These two variables were used to measure participants' opinions regarding the interaction overall.

The variables likeability and prosocial behaviour, on the contrary, assessed subjects' opinions of their interlocutor. So whether they thought their partner was likeable and displayed prosocial behaviour or not. Likeability was measured by using the Likeability Scale, developed by Reysen (2005), which consists of 11 statements anchored by a five-point Likert scales (e.g. 'completely disagree' – 'completely agree'). The reliability of 'likability' comprising eleven items was good: α = .85. Therefore, the mean of all eleven items was used to calculate the compound variable 'likeability', which was used in later analyses. Prosocial behaviour was measured using the adapted Prosocialness for Adults scale by Caprara, Steca, Zelli, & Capanna (2005), this tool consists 16 statements measured on similar five-point scales as the ones previously mentioned. The reliability of 'prosocial behaviour' comprising sixteen items was excellent: α = .91. Consequently, the mean of all sixteen items was used to calculate the compound variable 'prosocial behaviour', which was used in the further analyses.

In table 1 the analytical model for this study is schematically presented. The independent variables on the left and their effect depicted with arrows on the dependent variables on the right. As established in the introduction section, although often with conflicting dependencies, some of the dependent variables might influence one another as well. Even though these were not the main subjects, statistical tests were used to investigate possible correlations between them.

Table 1: schematic analytical model
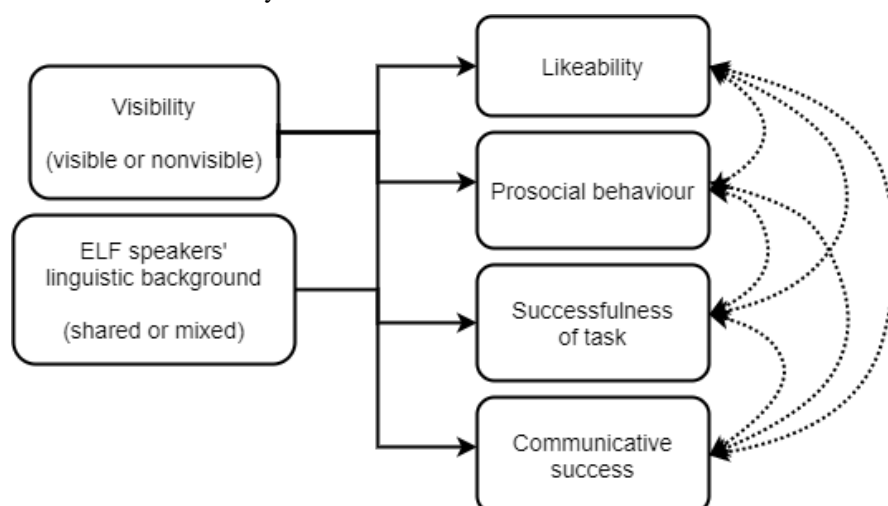
Subjects

Participants were foremost selected on the basis of their linguistic background, a total of 28 Dutch (14 visible and 14 non-visible) and 24 German (12 visible and 12 non-visible) subjects (18 male and 34 female) took part in the experiment. Familiarity could (as previously stated) influence outcomes and invalidate results, so the researchers made sure none of the participants knew their interlocutor. They were on average 24 years old (*SD* = 3.35, range = 20-30). Most participants had obtained their Bachelor's (23) or their Master's degree (9), a good portion (17) completed their A-Level education and the remaining (3) finished lower education or did not specify. There were no significant differences found between the subject groups in regard to gender or educational level, these background variables were evenly distributed over all four groups.

Language background and experience was measured by using questions from the Language History Questionnaire (LHQ), developed by Li, Zhang, Yu and Zhao (2019). Because English proficiency was determinative for the execution of the experiment, subjects were required to have at least some basic abilities in certain areas for results to be valid. The average age participants started speaking and understanding English was 10.31 years old (*SD* = 2.96, range = 0-15). To establish whether there were differences between the Dutch and German participants with reference to these factors, a one-way ANOVA was conducted. This showed a significant effect of nationality on the age participants started speaking and understanding English (F (1, 50) = 8.10, p = .006). The average age Dutch participants (*M* = 11.32, *SD* = 2.07) started using the English language was higher than the Germans (*M* = 9.13, *SD* = 3.42). The mean for how long Dutch subjects have used English was 13.71 years (*SD* = 4.04, range = 7-22), for the German participants 12.92 years (*SD* = 3.45, range = 7-20) and overall 13.35 years (*SD* = 3.76, range = 7-22). No significant differences between these two groups were found for this variable. In conclusion, this meant all participants had been using English for at least 7 years and started using it at the latest on the age of 15, which the researchers regarded as an adequate minimum to participate in the study. The significant difference between the Dutch and German subjects regarding the age participants started using English, did not obstruct the course of this study. The participant groups' manipulation with regard to the linguistic background was not between Dutch and German, but rather whether they had a mixed or shared L1. Both Dutch and German participants were equally represented in all groups.

Additionally, participants had to rate their own proficiency by means of another set of questions from the LHQ. Three of those were concerning learning ability, understanding and

speaking of English, which were measured and anchored by seven-point Likert scales (e.g. 'very bad' to 'excellent'). The reliability of 'self-assessed proficiency' comprising three items was good: $\alpha = .83$. Therefore, the mean of all three items was used to calculate the compound variable 'self-assessed proficiency', which was used to establish any differences between groups. The self-assessed proficiency of the German ($M = 5.47$, $SD = .96$) and Dutch ($M = 5.24$, $SD = .70$) participants was very similar. On average, all participants thought their English proficiency was between 'good' and 'very good'.

There were no other significant differences between the participant groups regarding any of the relevant background variables including age, self-assessed proficiency and the duration of English usage with different purposes (i.e. speech, television, reading, podcasts, social media and writing).

Procedure

The researcher themselves were responsible for recruiting the required amount of subjects. Together they ensured proper sampling and distribution along the earlier mentioned restrictions was performed. The participants were pre-screened, properly informed about the study and eventually gave their consent to the set requirements. At that stage, before the actual experiment, they received general instructions about when and how the study was going to take place. These instructions involved the setting of a Zoom meeting, the necessity of a working microphone and stable internet connection, the language used and when they could speak (e.g. exclusively in English and no communication before instructed to do so) and the predicted duration of the experiment and questionnaire following the meeting.

At the beginning of the actual experiment, participants could join the Zoom meeting via a link they received through e-mail. When they entered the room, both participants were unable to see or hear each other. They were further instructed about the task they had to perform; a collaborative spot-the-difference task (see Appendix A. for detailed protocol and instructions). By showing figure 1 the objective, duration and limitations were clarified. The

Figure 1: instruction sample stimulus material
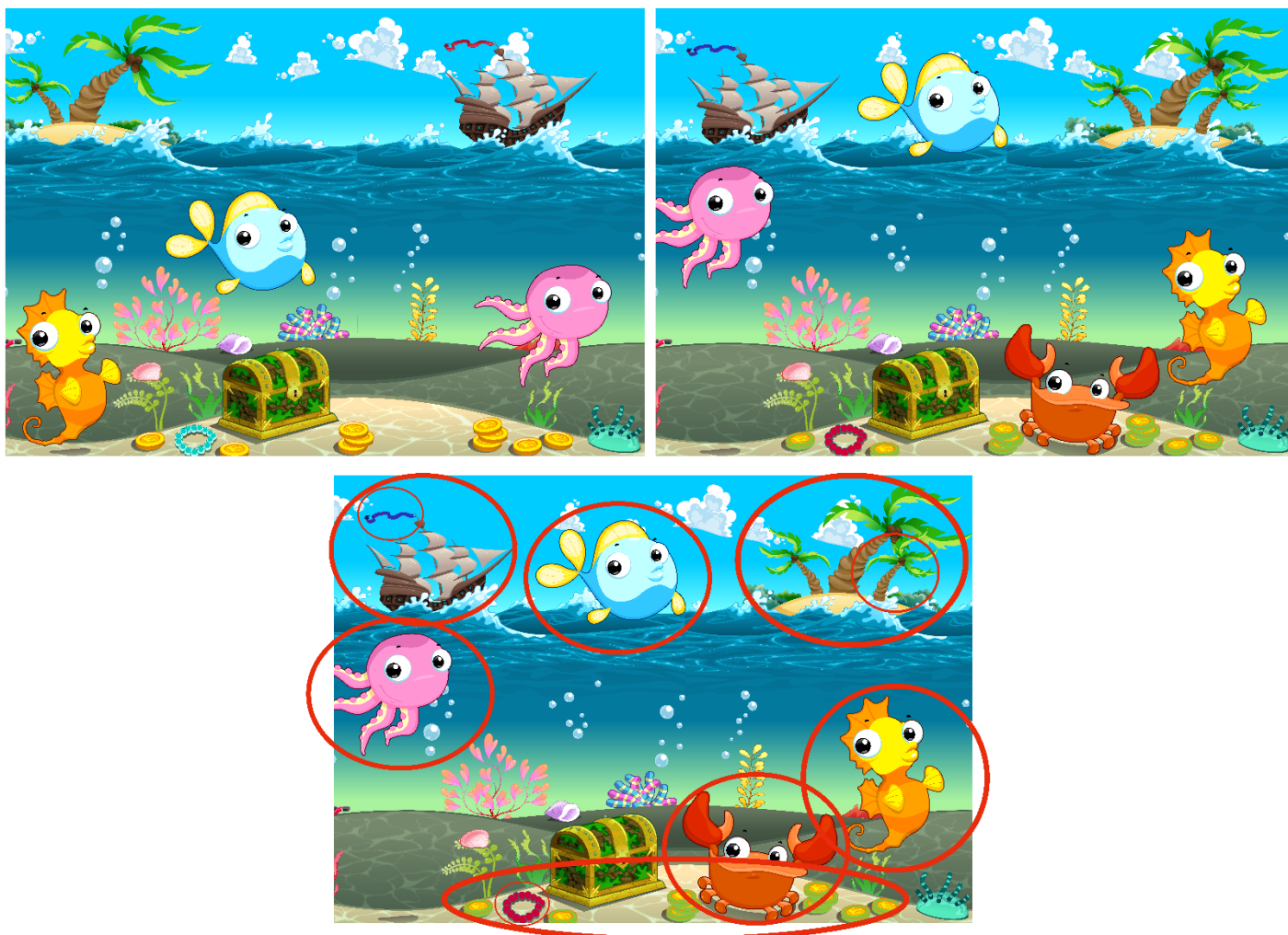
participants were put in breakout rooms separate from their partner. In there, they were both shown one of the two images in figure 2. These images have been manipulated to have ten differences between them (see bottom image in figure 1). These images were retrieved from www.elements.envato.com and adapted by the researchers involved in this study. When shown these images, subjects got 2 minutes to remember the most important elements and were allowed to take notes while doing so. After that, both participants communicated with their partners for the first time in the main room (without seeing any image). At this point visibility of their interlocutor would be established (or not). They then were given 5 minutes to discuss their images to establish together which differences there were between the two

images they saw. During this time, both researchers were present in the meeting, but were not taking part in the interaction in any way. Participants were instructed to perform the task as if they were not there. A found difference was noted when the participants mutually agreed on a difference, even though it was not actually present. The difference was noted down independently by both researchers to ensure intercoder reliability.

After the couple finished the task, they both were asked to immediately fill in a questionnaire while still in the Zoom meeting. This questionnaire contained all statements and

Figure 2: seek-the-differences task stimuli
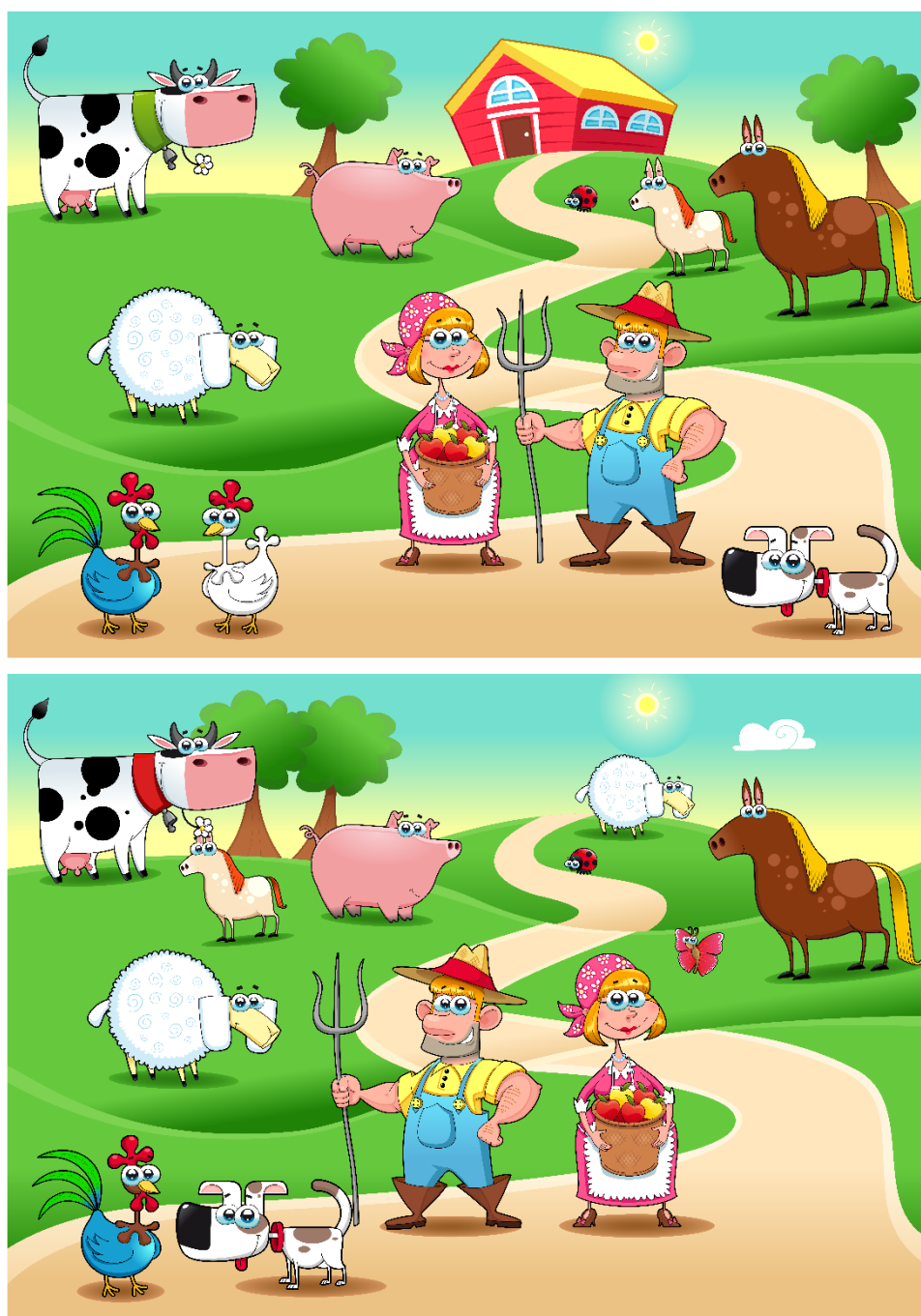
questions regarding the aforementioned variables. The total duration of the task including filling out the questionnaire was around 15 minutes. After that, participants were thoroughly thanked for their participation. After all data is collected and processed, subjects will receive an e-mail in which the goal of the study will be made clear. If this had been done right after finishing the experiment, participants might have influenced others, which could have led to invalid results. Regardless, participants were firmly requested not to discuss anything about the study with anyone before they receive the e-mail.

Analysis

The multiple scales used as instruments to measure multiple variables were tested for reliability by calculating Cronbach's α. This was done before analysing results to provide proof of reliability within these tools. After approval of these tools and collecting the data, results were analysed using multiple ANOVA's. Additionally, Pearson's correlations were calculated to test relations between the separate dependent variables.

Results

The purpose of this study was to identify any effects of visibility and ELF speakers' linguistic backgrounds on likeability, prosocial behaviour, (perceived) successfulness of the task and (perceived) communicative success.

Likeability

A two-way analysis of variance with visibility (visible or non-visible) and speakers' linguistic background (shared or mixed) as factors showed no significant main effect of visibility on likeability (F (1, 48) < 1). Speakers' linguistic background was also not found to have a significant main effect on likeability (F (1, 48) < 1), neither was the interaction effect between visibility and speakers' linguistic background (F (1, 48) < 1). Table 2 presents the means and standard deviations that resulted from the two-way ANOVA's that were conducted.

Table 2: Descriptive statistics for the four language/visibility groups of all separate dependent variables ($N = 52$)

	differences found	likeability	prosocial behaviour	perceived successful-ness of task	perceived communicative success
shared visible	6.57 (1.65)	3.86 (.53)	3.73 (.56)	3.81 (.99)	4.54 (.53)
shared non-visible	7.57 (2.59)	3.83 (.62)	3.79 (.55)	3.80 (.77)	4.31 (.49)
mixed visible	6.83 (1.53)	3.75 (.42)	3.83 (.37)	3.72 (.68)	4.38 (.50)
mixed non-visible	7.00 (2.41)	3.73 (.31)	3.57 (.39)	3.60 (.61)	4.07 (.32)

Notes: Mean, (Standard Deviation)

Prosocial behaviour

A two-way analysis of variance with visibility (visible or non-visible) and speakers' linguistic background (shared or mixed) as factors showed no significant main effect of visibility on prosocial behaviour (F (1, 48) < 1). Speakers' linguistic background was also not found to have a significant main effect on prosocial behaviour (F (1, 48) < 1), neither was the interaction effect between visibility and speakers' linguistic background (F (1, 48) = 1.46, p = .233).

In table 3 it is shown that prosocial behaviour was found to be significantly positively correlated with likeability (r (52) = .586, p < .001), perceived successfulness of task (r (52) = .349, p = .011) and perceived communicative success (r (52) = .346, p = .012). All these variables increased alongside prosocial behaviour.

Successfulness of the task

Successfulness is not easily measured, that is why this was done in twofold. The questionnaire assessed perceived successfulness of task. A two-way analysis of variance with visibility (visible or non-visible) and speakers' linguistic background (shared or mixed) as factors showed no significant main effect of visibility on successfulness of task (F (1, 48) < 1). Speakers' linguistic background was also not found to have a significant main effect on successfulness of task (F (1, 48) < 1), neither was the interaction effect between visibility and speakers' linguistic background (F (1, 48) < 1).

Actual successfulness of the task was measured by the differences found by participants during the task. It is debatable whether this is directly related to the task or to communicative success. But as can be seen in table 3, a significant positive correlation was found between the differences found and perceived successfulness of task (r (52) = .447, p = .001), thus these two variables appear to be more closely related. The perceived successfulness of task increased with the differences found during the task. A two-way analysis of variance with visibility (visible or non-visible) and speakers' linguistic background (shared or mixed) as factors showed no significant main effect of visibility on the differences found (F (1, 48) < 1). Speakers' linguistic background had no significant main effect on differences found (F (1, 48) < 1), nor was the interaction effect between visibility and speakers' linguistic background (F (1, 48) < 1).

Communicative success

A two-way analysis of variance with linguistic background (shared or mixed) and visibility (visible or non-visible) as factors showed a significant main effect of visibility on perceived communicative success (F (1, 48) = 4.44, p = .040). Linguistic background (F (1, 48) = 2.52, p = .119) did not have a significant main effect and the interaction effect between the two independent variables was not significant either (F (1, 48) < 1). The visible participants (M = 4.46, SD = .51) perceived their communication to be more successful than the non-visible participants (M = 4.20, SD = .39).

Finally, there was a significant positive correlation found between perceived successfulness of task and perceived communicative success (r (52) = .532, p < .001) (see table 3). As perceived successfulness of the task increased, so did the perceived communicative success.

Table 3: Significant correlations (*r*) between differences found, likeability, prosocial behaviour, perceived successfulness of task and perceived communicative success (*N* = 52)

	differences found	likeability	prosocial behaviour	perceived successful-ness of task	perceived communicative success
differences found	1				
likeability		1			
prosocial behaviour		.586**	1		
perceived success-fulness of task	.447**		.349*	1	
perceived comm-unicative success			.346*	.532**	1

*Notes: * p < .050, ** p < .010*

Conclusion

The two main variables that could affect the outcome of this study were visibility and the ELF speakers' linguistic background. Partially in line with the hypothesis, visibility was found to only have a significant effect on perceived communicative success. Interlocutors that were able to see their partner in the Zoom meeting evaluated their communication as more successful than the individuals that were unable to see their interlocutor. Aside from that, visibility did not influence the other dependent variables significantly. Furthermore, there were no significant effects found that were caused by the linguistic backgrounds of participants, nor was there any interaction effect between the two on any of the dependent variables. Although not directional in its formulation, the predictions concerning some effect caused by interlocutors' linguistic background was not met.

In the analysis of potential relations between dependent variables, several were found. Pearson's correlation coefficients are presented in table 3. Prosocial behaviour and perceived successfulness of the task provided positive connections with other variables. As prosocial behaviour of their interlocutor was rated more positive, so were likeability, (perceived) successfulness of task and communicative success. When participants thought the task was carried out more successful, they evaluated the communication to be more successful as well and had previously found more differences during the task.

Discussion

Based on the results within this study it can be concluded that ELF speakers' linguistic background had no effect on any of the dependent variables whatsoever. Even though there were no directional hypotheses presented beforehand, some significant results were expected. A previous study found that a shared L1 background language causes subjects to easier and faster communicate compared to a mixed linguistic background (Costa, Pickering & Sorace, 2008). This could have led to increased communicative or task success, as well as higher likeability of interlocutors. Furthermore it was suggested that familiarity to an accent, hence a shared linguistic background, supposedly led to more syntactic priming an thus increased communicative success (Chun & Kaan, 2020). On the contrary, other researchers induced that linguistic background would not have any effects. Interlocutors might for instance have universal coping mechanisms to deal with perceived differences between them. In previous studies, participants had the tendency to evaluate interlocutors' proficiency levels and adjusted their language use accordingly (Costa, Pickering, Sorace, 2008; Suffill et al., 2021).

The lacking of significant effects could also be attributed to the grammar and origin of participants' native languages, there are not many fundamental differences. The Dutch language was even found to have originated between English and German and cross-pollination between the languages has been pivotal in shaping all three of them (Buccini, 2010). These combined with cultural similarities could lead to the highest priming, which diminishes possible other effects (Heyselaar, Hagoort & Segaert, 2017). By deducing what could have caused these findings, it is difficult to draw any definitive conclusions. One could argue that there truly is nothing going on between the different groups of participants. However, the opposing hypotheses could also very well have cancelled each other out. Future research is necessary to determine which is more plausible.

Although the theory proposed conflicting results regarding the effects of interlocutor visibility, a prediction was made regarding this manipulation. Visibility was expected to have a positive effect on likeability and prosocial behaviour, thus improving the prospect of communicative and task success. The study by Schweitzer, Walsh and Schweizer (2017) found that prosocial behaviour increased without the presence of a visible interlocutor. Results regarding this variable, in addition to likeability and task successfulness, proved to be inconclusive. However, there were significant findings for communicative success and these appear to be in line with previous studies. Schoot, Hagoort and Segaert (2019) argued that communicative success, linked to syntactic alignment, should increase whilst communicating with a visible interlocutor. Similarly did Wang (2004) while researching online visibility in an

educational context, which was also found to have a positive influence on communicative success. Therefore, the current findings provide a congruent addition to the body of work concerning visibility and perceived communicative success. Communicative success is essentially the main reason why people take part in online interactions. The simple solution to for example Zoom fatigue might just be to turn your camera on while video conferencing.

The fact that no other effects were found to be significant is definitely remarkable. Especially due to the abundance of correlations between them. There was a direct relation found of perceived communicative success with prosocial behaviour and perceived successfulness of task. Possible causes for this observation among other limitations and hiatuses within this study, are further discussed in the following and final section.

Limitations and suggestions for further research

The selection and characteristics of the subjects within the scope of this study could have caused the lack of definitive conclusions. There seem to be patterns arising from the data, but limitations in the research design might have led to a lack of significance. One of the potential causes might be the number of participants. Even though the researchers decided the current number was sufficient for the analyses within the boundaries of this thesis, a bigger sample could reveal whether the results are coincidental or show a returning pattern. Another explanation could be the similarities in linguistic and cultural background of the Dutch and German participants. Therefore, it could be valuable to incorporate participants with more diverse cultural and linguistic backgrounds. A comparison between subjects with multiple (at least more than two) origins could prove to be interesting. By using a cross-cultural and cross-linguistic research design, the manipulation and distinction might be more evident.

The operationalisation of dependent variables might have been insufficient to properly represent the effect of combined factors. To a limited extent have they been adjusted accordingly to fit the researchers' needs. The statements that together form the scale for perceived successfulness of task was created by the researchers themselves. This means the scale has not been used in previous studies, so validity of the scale has not been tested sufficiently. Future studies should incorporate the scale to further investigate whether if yields similar results, or a separate test or questionnaire could test whether measurement is valid and reliable. In addition, it is unclear to what extent the dependent variables are truly different from one another. The strength and number of correlations between them are an indication of possible ineffective operationalisation and the factors are measuring elements that are related. Future research with an increased number of participants should include a factor analysis. By

including this, the relation between the dependent variables and comprising factors could provide more answers and provide sufficient proof for construct validity.

Another challenge the researchers faced was centred around the relevant variables that were left out of the study due to limitations found whilst preparing for the experiment. These are syntactic alignment, communication accommodation and code-switching, which all are closely related and mutually influence several of the other variables used. Due to a lack of time, manpower and coding experience these remained outside the scope of this study. Nevertheless, it is strongly encouraged for future studies to incorporate these in their design.

The study is limited to make assumptions about collaborative tasks in an online setting. It is unclear in what way this is generalizable to a different context, like for example group tasks or those with a more competitive intent. Future research could try to focus on group conversations or other varieties of online interactions. External validity is difficult to establish, but essential if researchers want to make claims about these specific formats.

During the execution of the experiment, researchers were dependent on participants' abilities, responsibilities and material conditions. It was attempted to consequently make every experiment similar in regard to the process and content delivered. A reading script and protocol were used by all researchers to ensure the best possible replicability (also for future researchers). However, participants were stationed at home and thus it was impossible to facilitate a controlled environment. Their surroundings, technical setup and other external factors (e.g. no-shows by interlocutors or misunderstandings) might have influenced the outcomes of this study.

In conclusion it can be stated that the findings, even though not convincingly, were generally in line with expectations formulated beforehand. Only communicative success proved to be significantly influenced by visibility. Therefore, turning on your camera during a video conference could very well be favourable related to perceived successfulness, especially while performing a collaborative task. It could at least not hurt anyone and due to the strong links between variables, could positively influence more than what we can definitively state here. This is one of the first studies concerning visibility in ELF interactions alongside its effects in an online setting within the "new normal" caused by COVID-19. While providing a valuable addition to the research topic, there is plenty of space left for future studies.

References

Abrahams, L., Hartsuiker, R. J., De Fruyt, F., & Bajo, M. T. (2019). Structural alignment and its prosocial effects in first and second languages. *Acta psychologica, 199.* doi: 10.1016/j.actpsy.2019.102906

Buccini, A. F. (2010). Between pre-German and pre-English: the origin of Dutch. *Journal of Germanic Linguistics*, *22(4)*, 301-314. doi: 10.1017/S1470542710000073

Caprara, G. V., Steca, P., Zelli, A., & Capanna, C. (2005). A new scale for measuring adults' prosocialness. *European Journal of psychological assessment*, *21(2),* 77-89. doi: 10.1027/1015-5759.21.2.77

Cataldo, F., Chang, S., Mendoza, A., & Buchanan, G. (2021). A Perspective on Client-Psychologist Relationships in Videoconferencing Psychotherapy: Literature Review. *JMIR mental health, 8(2)*. doi: 10.2196/19004

Chun, E., & Kaan, E. (2020). The effects of speaker accent on syntactic priming in second-language speakers. *Second Language Research*. doi: 10.1177/0267658320926563

Chun, E., Barrow, J., & Kaan, E. (2016). Native English speakers' structural alignment mediated by foreign-accented speech. *Linguistics Vanguard, 2(1)*. doi: 10.1515/lingvan-2016-0027

Costa, A., Pickering, M. J., & Sorace, A. (2008). Alignment in second language dialogue. *Language and Cognitive Processes*, *23(4)*, 528–556. doi: 10.1080/01690960801920545

Heyselaar, E., Hagoort, P., & Segaert, K. (2017). How social opinion influences syntactic processing—An investigation using virtual reality. *PloS one, 12(4).* doi: 10.1371/journal.pone.0174405

Heyselaar, E., Hagoort, P., & Segaert, K. (2017). In dialogue with an avatar, language behavior is identical to dialogue with a human partner. *Behavior research methods, 49(1),* 46-60. doi: 10.3758/s13428-015-0688-7

Li, P., Zhang, F., Yu, A., & Zhao, X. (2020). Language History Questionnaire (LHQ3): An enhanced tool for assessing multilingual experience. *Bilingualism: Language and Cognition, 23(5),* 938-944. doi: 10.1017/S1366728918001153

Messner, W. (2015). Measuring existent intercultural effectiveness in global teams. *International Journal of Managing Projects in Business, 8(1),* 107-132. doi: 10.1108/IJMPB-05-2014-0044

Reysen, S. (2005). Construction of a new scale: The Reysen likability scale. *Social Behavior and Personality: an international journal, 33(2),* 201-208. doi: 10.2224/sbp.2005.33.2.201

Riva, G., Wiederhold, B. K., & Mantovani, F. (2021). Surviving COVID-19: The Neuroscience of Smart Working and Distance Learning. *Cyberpsychology, Behavior, and Social Networking*, *24(2)*, 79-85. doi: 10.1089/cyber.2021.0009

Schoot, L., Heyselaar, E., Hagoort, P., & Segaert, K. (2016). Does syntactic alignment effectively influence how speakers are perceived by their conversation partner?. *PloS one, 11(4).* doi: 10.1371/journal.pone.0153521

Schoot, L., Hagoort, P., & Segaert, K. (2019). Stronger syntactic alignment in the presence of an interlocutor. *Frontiers in psychology, 10.* doi: 10.3389/fpsyg.2019.00685

Schweitzer, K., Walsh, M., & Schweitzer, A. (2017). To See or not to See: Interlocutor Visibility and Likeability Influence Convergence in Intonation. *Interspeech 2017.* 919-923. doi: 10.21437/Interspeech.2017-1248

Suffill, E., Kutasi, T., Pickering, M. J., & Branigan, H. P. (2021). Lexical alignment is affected by addressee but not speaker nativeness. *Bilingualism: Language and Cognition*, 1-12. doi: 10.1017/S1366728921000092

Trofimovich, P., & Kennedy, S. (2014). Interactive alignment between bilingual interlocutors: Evidence from two information-exchange tasks. *Bilingualism, 17(4)*, 822. doi: 10.1017/S1366728913000801

Van Mulken, M., & Hendriks, B. (2015). Your language or mine? or English as a lingua franca? Comparing effectiveness in English as a lingua franca and L1–L2 interactions: implications for corporate language policies. *Journal of Multilingual and Multicultural Development, 36(4),* 404-422. doi: 10.1080/01434632.2014.936873

Yuan, E. S. (2020, April 1). A Message to Our Users. *Zoom Company News.* Consulted at https://blog.zoom.us

Wang, M. (2004). Correlational analysis of student visibility and performance in online learning. *Journal of Asynchronous Learning Networks*, *8(4)*, 71-82. doi: 10.24059/olj.v8i4.1811

Appendix A. Protocol and experiment instructions

Protocol for experiment without visibility:

Step 1: Researchers join the call 5 minutes in advance to set up everything. They decide which participant will join which breakout room. Researchers have fixed task that they carry out in every meeting (e.g., show specific image, set up breakout rooms, read script, count differences etc.) Participants will join the waiting room.

Step 2: Participants join the Zoom call, cameras and microphones are turned off. Researchers ask whether the participants can hear, they can indicate via the chat.

Step 3: Researcher 1 greets the participants and reads the script. Researcher shows example image and gives examples. Participants are reminded that they need a sheet of paper. Participants can ask questions via the chat function.

Step 4: Researchers and Participants join the breakout room. Each researcher checks whether the microphone is working. Researcher enables screen sharing. Participants have 2 minutes to watch the image and take notes.

Step 5: Participants and researchers join the main session again. Researcher has to enable screen recording. Research gives cue once they can start. Participants have 5 minutes to communicate. Once the five minutes are over, the researcher tells them to stop.

Step 6: Researcher reminds them of the participant id. Participants get the link to the questionnaire in the chat room. Researchers ask them to fill it in during the session. Thank them for participation. Stress that they cannot discuss anything regarding the experiment with their friends and/or family. Remind them to Once they are done and it is submitted they can leave the call.

Instructions/script participants with camera

Welcome and thank you for participating in this experiment. Your microphone is muted and your camera is off during the duration of this explanation. If you have any questions or remarks you can use the chat function at the bottom of the screen. During the actual experiment, you will be able to communicate in English in any way you see fit. The goal of

this experiment is to identify 10 changes in a spot the difference game like this image we show you (show beach scene). The differences could be the location of objects, the number of objects, colour changes in objects, or an additional object in one of the pictures. In a short moment, you will both be sent to a separate room called a breakout room without your partner where one of the researchers will show you an image and your partner will see the same image as you but with 10 differences. You will be given 2 minutes to remember your specific image. You can take notes about what you see in the picture but you are not allowed to take any pictures. Therefore, it is required that you have a piece of paper and a pen to take notes during the breakout room. After your two minutes, the researchers will leave the break-out room. Please stay and wait patiently until the researcher closes the break-out room. Afterwards, you will be brought back to this room. Once you and your partner are both back in the main room you will have 5 minutes to communicate with each other in order to identify the differences between the pictures. It is important to note that there will be no reference image in this room, you and your partner will need to verbally identify the differences. We will not be able to give any feedback or hints. Pretend as if we are not there. We will indicate when the 5 minutes have passed. Like indicated in the pre-screening questionnaire you will be recorded during the experiment, this recording will be used only for scientific purposes by researchers of Radboud university. this experiment will measure communicative skills via Zoom Do you have any questions?

Instructions after experiment (with camera condition):
The 5 minutes have passed, you will now be asked to complete a questionnaire while you are still in the zoom call. Via this link (SEND LINK) The total time of this survey will be 15 minutes. Thank you for your participation,with your data we will be able to analyse communicative skills via Zoom. We will send you an email with the outcomes of the experiment when all data is collected and analysed. We are not sure if you know anybody else who is also doing the experiment. If you do, please do not share anything about the experiment or your experience until after you have received our debriefing email. as this could jeopardize our results and analysis.

Instructions/script participants (without camera condition):
Welcome and thank you for participating in this experiment. Your microphone is muted and your camera is off during the duration of this explanation.However, your camera will be off during the entire experiment. If you have any questions or remarks you can use the chat

function at the bottom of the screen. During the actual experiment, you will be able to communicate in English in any way you see fit. The goal of this experiment is to identify 10 changes in a spot the difference game like this image we show you (show beach scene). The differences could be the location of objects, the number of objects, colour changes in objects, or an additional object in one of the pictures. In a short moment, you will both be sent to a separate room called a breakout room without your partner where one of the researchers will show you an image and your partner will see the same image as you but with 10 differences. You will be given 2 minutes to remember your specific image. You can take notes about what you see in the picture but you are not allowed to take any pictures. Therefore, it is required that you have a piece of paper and a pen to take notes during the breakout room. After your two minutes, the researchers will leave the break-out room. Please stay and wait patiently until the researcher closes the break-out room. Afterwards, you will be brought back to this room. Once you and your partner are both back in the main room you will have 5 minutes to communicate with each other in order to identify the differences between the pictures. It is important to note that there will be no reference image in this room, you and your partner will need to verbally identify the differences. We will not be able to give any feedback or hints. Pretend as if we are not there. We will indicate when the 5 minutes have passed. Like indicated in the pre-screening questionnaire you will be recorded during the experiment, this recording will be used only for scientific purposes by researchers of Radboud university. this experiment will measure communicative skills via Zoom Do you have any questions?

Instructions after experiment (without camera condition):
The 5 minutes have passed, you will now be asked to complete a questionnaire while you are still in the zoom call. Via this link (SEND LINK) The total time of this survey will be 15 minutes. Thank you for your participation,with your data we will be able to analyse communicative skills via Zoom. We will send you an email with the outcomes of the experiment when all data is collected and analysed. We are not sure if you know anybody else who is also doing the experiment. If you do, please do not share anything about the experiment or your experience until after you have received our debriefing email. as this could jeopardize our results and analysis.

Appendix B. Dependent variables scales

Likeability scale

1. This person is friendly;
2. This person is kind;
3. This person is warm;
4. This person is approachable;
5. I would ask this person for advice;
6. I would like this person as a co-worker;
7. I would like this person as a roommate;
8. I would like to be friends with this person;
9. This person is physically attractive;
10. This person is similar to me;
11. This person is knowledgeable.

Prosocial behaviour scale

1. I think this person is pleased to help their friends/colleagues in their activities.
2. I think this person shares things with their friends.
3. I think this person tries to help others
4. I think this person is available for volunteer activities to help those who are in need
5. I think this person is empathetic with those in need
6. I think this person helps immediately those in need
7. I think this person does what they can to help others avoid getting into trouble
8. I think this person intensely feels what others feel
9. I think this person is willing to make their knowledge and abilities available to others
10. I think this person tries to consolidate those who are sad
11. I think this person easily lends money and other things
12. I think this person easily puts themselves in the shoes of those who are in discomfort
13. I think this person tries to be close to and take care of those in need.
14. I think this person easily shares with friends and any good opportunity that comes to them
15. I think this person spends time with those friends who feel lonely
16. I think this person immediately senses their friends' discomfort even when it is not directly communicated to them

Perceived successfulness of task scale

1. I am generally happy with our collaboration
2. We are at least as effective as when I am interacting in my own language
3. We are at least as efficient as when I am interacting in my own language
4. I think the results of our collaboration could be better
5. I think that we could have achieved more

Perceived communicative success scale

1. The conversation with this person went smoothly
2. Talking to this person was easy
3. I think this person understood what I was saying
4. I understood what this person was saying
5. There were no misunderstandings
6. I was able to help the other person when they were, for instance, stuck

Appendix C. Checklist EACH
(version 1.6, november 2020)

You fill in the questions by clicking on the square next to the chosen answer ☐

After clicking, a cross will appear in this square ☒

1. Is a health care institution involved in the research?

Explanation: A health care institution is involved if one of the following (A/B/C) is the case:

A. One or more employees of a health care institution is/are involved in the research as principle or in the carrying out or execution of the research.
B. The research takes place within the walls of the health care institution and should, following the nature of the research, generally not be carried out outside the institution.
C. Patients / clients of the health care institution participate in the research (in the form of treatment).

    ☒ No → continue with questionnaire

    ☐ Yes → Did a Dutch Medical Institutional Review Board (MIRB) decide that the Wet Medisch Onderzoek (Medical Research Involving Human Subjects Act) is not applicable?

    ☐ Yes → continue with questionnaire

    ☐ No → This application should be reviewed by a Medical Institutional Review Board, for example, the Dutch [CMO Regio Arnhem Nijmegen](#) → end of checklist

2. Do grant providers wish the protocol to be assessed by a recognised MIRB?

    ☒ No → continue with questionnaire

    ☐ Yes → This application should be reviewed by a Medical Institutional Review Board, for example, the Dutch [CMO Regio Arnhem Nijmegen](#) → end of checklist

3. Does the research include [medical-scientific research](#) that might carry risks for the participant?

    ☒ No → continue with questionnaire

    ☐ Yes → This application should be reviewed by a Medical Institutional Review Board, for example, the Dutch [CMO Regio Arnhem Nijmegen](#) → end of checklist

Standard research method

4. Does this research fall under one of the stated [standard research methods](#) of the Faculty of Arts or the Faculty of Philosophy, Theology and Religious Studies?

    ☒ Yes → 2 **(fill in name and number of standard research method)** → continue with questionnaire

    ☐ No → assessment necessary, end of checklist

Participants

5. Is the participant population a healthy one?

    ☒ Yes → continue with questionnaire

    ☐ No → assessment necessary, end of checklist → [go to assessment procedure](#)

6. Will the research be conducted amongst minors (<16 years of age) or amongst (legally) incapable persons?

    ☐ Yes → assessment necessary, end of checklist → [go to assessment procedure](#)

    ☒ No → continue with questionnaire

Method

7. Is a method used that makes it possible to produce a coincidental finding that the participant should be informed of?

    ☐ Yes → assessment necessary, end of checklist → [go to assessment procedure](#)

    ☒ No → continue with questionnaire

8. Will participants undergo treatment or are they asked to perform certain behaviours that can lead to discomfort?

    ☐ Yes → assessment necessary, end of checklist → [go to assessment procedure](#)

    ☒ No → continue with questionnaire

9. Are the estimated risks connected to the research minimal?

    ☐ No → assessment necessary, end of checklist → [go to assessment procedure](#)

    ☒ Yes → continue with questionnaire

10. Are the participants offered a different compensation than the usual one?

    ☐ Yes → assessment necessary, end of checklist → [go to assessment procedure](#)

    ☒ No → continue with questionnaire

11. Should [deception](#) take place, does the procedure meet the standard requirements?

    ☐ No → assessment necessary, end of checklist → [go to assessment procedure](#)

    ☒ Yes → continue with questionnaire

12. Are the standard regulations regarding [anonymity and privacy](#) met?

    ☐ No → assessment necessary, end of checklist → [go to assessment procedure](#)

    ☒ Yes → continue with questionnaire

Conducting the research

13. Will the research be carried out at an external location (such as a school, hospital)?

    ☒ No → continue with questionnaire

    ☒ Yes→ Do you have/will you receive written permission from this institution?

        ☐ No → assessment necessary, end of checklist → [go to assessment procedure](#)

        ☐ Yes → continue with questionnaire

14. Is there a contact person to whom participants can turn to with questions regarding the research and are they informed of this?

    ☐ No → assessment necessary, end of checklist → [go to assessment procedure](#)

    ☒ Yes → continue with questionnaire

15. Is it clear for participants where they can file complaints with regard to participating in the research and how these complaints will be dealt with?

☐ No→ assessment necessary, end of checklist → [go to assessment procedure](#)

☒ Yes → continue with questionnaire

16. Are the participants free to participate in the research, and to stop at any given point, whenever and for whatever reason they should wish to do so?

☐ No→ assessment necessary, end of checklist → [go to assessment procedure](#)

☒ Yes → continue with questionnaire

17. Before participating, are participants informed by means of an information document about the aim, nature and risks and objections of the study? (zie [explanation on informed consent](#) and [sample documents)](#).

☐ No→ assessment necessary, end of checklist → [go to assessment procedure](#)

☒ Yes → continue with questionnaire

18. Do participants and/or their representatives sign a consent form? (zie [explanation on informed consent](#) and [sample documents](#).

☐ No→ assessment necessary, end of checklist → [go to assessment procedure](#)

☒ Yes → checklist finished

If you want to record the results of this checklist, please save the completed file.

If you need approval from the EACH due to the requirement of a publisher or research grant provider, you will have to follow the formal assessment procedure of the EACH.

Appendix D. Statement of own work

Sign this *Statement of own work* form and add it as the last appendix in the final version of the Bachelor's thesis that is submitted as to the first supervisor.

Student name: Roel Beumer

Student number: 4066022

PLAGIARISM is the presentation by a student of an assignment or piece of work which has in fact been copied in whole or in part from another student's work, or from any other source (e.g. published books or periodicals or material from Internet sites), without due acknowledgement in the text.

DECLARATION:

a. I hereby declare that I am familiar with the faculty manual (https://www.ru.nl/facultyofarts/stip/rules-guidelines/rules/fraud-plagiarism/) and with Article 16 "Fraud and plagiarism" in the Education and Examination Regulations for the Bachelor's programme of Communication and Information Studies.

b. I also declare that I have only submitted text written in my own words

c. I certify that this thesis is my own work and that I have acknowledged all material and sources used in its preparation, whether they be books, articles, reports, lecture notes, and any other kind of document, electronic or personal communication.

Signature:

Place and date: 7-6-2021