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## **International Business Communication Bachelor's Thesis**

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**Vaccination Appeals: Is the T or V Pronoun more Persuasive to  
Dutch and German speakers?**

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## **Abstract**

The objective of the present paper is the examination of the impact that T and V pronouns have on the persuasiveness in Dutch and German vaccination appeals. The previous literature suggests that there is a preference for V (*Sie*) among the German society, while Dutch speakers are more likely to prefer T ( *jij*). A between-subjects experiment was performed in which Dutch and German students were confronted with each 4 posters showing persuasive messages with either T or V pronouns. The Dutch and German natives were then asked to answer a set of questions that measure persuasiveness divided in three components: effectiveness, quality, and capability. After operating a two-way ANOVA, one can conclude that the results of the current study are not in line with the previous indications, as the type of pronoun did not show to have an effect on the perceived persuasiveness. However, one out of three aspects that determine persuasiveness, namely quality, was evaluated higher by the German speakers.

## **Introduction**

The COVID-19 pandemic has an enormous impact on the population's behaviour all around the world. Due to the highly infectious virus that has been continually circulating in the past years, individuals are required to adapt their daily routines and habits. This occurs in forms of social distancing, wearing a face mask or quarantining, for instance. A milestone in this global fight against COVID-19 has been the development and distribution of vaccines. These changes require authorities to communicate such measures in a way that addresses and convinces a greater audience to be responsible and follow the new norms. This also includes the appeal to get vaccinated, which is a crucial task for governments, institutions and public persons. The German government, for instance, published 7 reasons that should convince readers to accept the vaccine (Bundesregierung, 2022).

## **Health and Crisis Communication**

The transmission of a message from the sender to the receiver broadly defines the process of functional communication (Cao, 1998). This procedure can be applied to all kinds of situations, also to the COVID-19 pandemic. This pandemic is also commonly referred to as the COVID-19 crisis, which is why the transmission of messages about this situation can be described as crisis communication. Cornelissen (2020) defines a crisis as a circumstance that

needs immediate and decisive action and Coombs (2010) describes crisis communication as the gathering, processing, and distribution of all the information that is required in order to address a crisis. Within this under-pressure process of planning and communicating, language is one of the determining components (Markowitz, 2021). Crisis communicators can actually make strategic use of evaluative language to alter one's perception, evaluation, beliefs, attitudes, and behaviour concerning the issue, attempting to improve the overall situation and (re)define the crisis itself (Fediuk, Pace & Botero, 2010; Rachfal, 2016).

Furthermore, messages related to the pandemic do not only fall under the category of crisis communication, but also under the one of health communication. Health experts are one of the main communicators in this pandemic, next to other authorities like governments. Their statements are fundamental in maintaining order during crises (Markowitz, 2021) and play an important role in people's likelihood to engage in behaviour-changing measures, such as getting a vaccination (Gilkey et al., 2016).

### **Persuasiveness & Language**

When trying to influence behaviour, as in the case of convincing the society of the benefits that vaccines hold, one can speak of persuasion. This process is defined by O'Keefe (2002, p. 5) as "a successful intentional effort at influencing another's mental state through communication in a circumstance in which the persuadee has some measure of freedom". However, Hoeken, Hornikx and Hustinx (2019) evaluate this description and come to the conclusion that persuasion does not have to be successful by definition. A central aspect of persuasion in the context of influencing another's mental state, also related to COVID-19, is to affect behaviour. An important task of research is to investigate how a persuasive message is formulated in the most effective way.

Language seems to play a major role in this persuasion process, as it directly influences individual behaviour and is able to transmit the feelings of confidence and reassurance (Burdett, 1999), for example. Similarly, language is a tool that allows a speaker to frame a certain situation and in turn influence the receiver's perception of this situation (Whittle, Housley, Gilchrist, Mueller & Lenney, 2015). Thus, when investigating the effect of the persuasive messages for the sake of this study, it is important to take various linguistic aspects into account, as valuable insights into how the most persuasive message is formulated, could be revealed.

## The Effects of Pronouns

The use of pronouns is common practice in many languages, which is why it is interesting to examine the effect of pronouns in this context. Concretely, this study will focus on pronouns of address. In English, there is no doubt regarding which pronoun of address to use because only *you* exists in the English language spoken today. However, approximately a quarter of languages differentiates between two different pronouns of address (Helmbrecht, 2003), such as Dutch and German: There are *u* and *jij* in Dutch and likewise *Sie* and *du* in German. Brown and Gilman (1960) introduced the research in the distinction between these two by naming one of the two pronouns V and the other one T - abbreviations from the Latin pronouns *vos* and *tu*. They also reported on the dimensions that determine the situational use of either pronoun. On the one hand, there is the dimension of power, which Brown and Gilman (1960) identify as a nonreciprocal relationship in which one entity can control the behaviour of another. The more powerful individual uses T while receiving V. A typical example for this scenario would be the relationship between an employer and an employee. The second dimension portrayed, on the other hand, is solidarity, which is the general symmetrical relationship of two entities. For instance, the level of solidarity between twins is higher than the level of solidarity between cousins. As solidarity increases, the use of the T pronoun becomes more probable. However, although this research was ground-breaking at the time and still is highly relevant today, there are some limitations to this approach. Concretely, it is probably too simple to classify the use into only two categories because there could be far more variables influencing the choice of using V or T. As specified by Kendall (1981), either form can obtain a different meaning in diverse contexts, such as in humoristic or sarcastic scenarios.

The use of V and T in prototypical informal contexts, such as communicating among family members and friends, versus formal and official communication seems to be consistent in most languages, also in Dutch and German (Levinsha, 2017). Nevertheless, the literature suggests that the conventions regarding the situational use of T and V in Dutch and German differ to some extent, especially in grey areas. Generally, German is known to restrict the utilisation of T more than other languages, including Dutch (Levinsha, 2017). The place of communication also seems to be a determining factor for German speakers because Levinsha (2017) showed that the likelihood of V increases in public places, especially for young hearers in the office. In other words, young individuals that would be addressed with T outside the office, are addressed with V inside the office. Furthermore, House and Kádár (2020) investigated the (non)adaptation of IKEA's T policy in catalogues and demonstrated that the

originally Swedish messages using T were indeed translated with T in both Dutch and German. However, this adaptation of the T policy was evaluated negatively by German respondents (House & Kádár, 2020). Additionally, Dutch speakers appear to particularly prefer V when addressing a hearer that belongs to a higher social class (Levinsha, 2017). Based on these previous findings, one could speculate that the German participants perceive V more positively and, therefore, as more persuasive, while the Dutch subjects are more persuaded by T.

Another essential linguistic aspect to consider is direct language use - wording that explicitly addresses the receiver of a message. This way of creating an impression of personalization positively influences a consumer's response to marketing messages, as shown by Sahni, Zou and Chintagunta (2017). The researchers found that the inclusion of a consumers' first name in the subject line of e-mails resulted in an increased probability of the consumer opening the message, and a positive effect on sales was detected. Another way which allows a message to directly speak to an audience is the use of pronouns of address. According to the literature, the utilisation of pronouns of address in different contexts can have various effects. For instance, songs that included second-person pronouns were liked more than ones without or with little you-language (Packard & Berger, 2020). Also, Cruz, Leonhardt and Pezzuti (2017) conducted an experiment in which the use of *you* in brand messaging on social media resulted in more consumer likes, shares, and comments, which the authors interpreted as a sign of consumer involvement. They also discovered that this effect is mediated by self-referencing, which is a strategy in which individuals relate a message to their own selves (Burnkrant & Unnava, 1995). Listener's attention and self-referencing can be stimulated by uttering second-person singular pronouns (Debevec & Romeo, 1992). Inducing self-referencing can be very persuasive (Escalas, 2007), although this only applies for content that is not too complex (Burnkrant & Unnava, 1995). Thus, pronouns of address seem to indicate overall positive (persuasive) consequences, which is why the further investigation of the effects in different contexts is worthwhile.

### **The Use of Pronouns in the Pandemic**

There has also been some research relating pronominal forms to the current COVID-19 pandemic. Tian, Kim and Solomon (2021) investigated the effect of the second-person singular pronoun versus the first-person plural pronoun in supportive messages about COVID-19. The authors hypothesised that the latter option would be favoured in a circumstance that needs communal coping, such as living in times of a pandemic that requires everyone in society to

take action. However, the results indicate that indeed the you-form was associated with more emotional improvement and, thus, preferred over the we-form. A potential explanation pointed out by the authors is the idea that COVID-19 is not only perceived as a shared stressor, but also an individual one, and that using the second-person singular pronoun increases the personal relevance of each individual. A similar approach was taken by Tu, Chen and Mesler (2021) investigating the use of you-language versus we-language in messages appealing to adhere to pandemic-related measures, such as wearing a face mask. The variable self-control was also assessed, hypothesising that individuals with a high level of self-control will follow the rules regardless of the pronoun condition. Indeed, the study confirms this hypothesis and also demonstrates that, for participants with low self-control, the second-person pronoun led to more willingness to adhere to COVID-19 measures, suggesting that you-language may be the best overall option. Taking these findings into account, one can conclude that the use of pronouns of address has a positive effect in messages related to the pandemic. Therefore, the examination of these pronouns in relation to messages about COVID-19 is strongly relevant.

### **Cultural Dimensions**

As this phenomenon of V and T exists in several languages, a cross-cultural investigation will complement the analysis of the use of pronouns of address. The present research will specifically focus on the two pronominal forms in Dutch (*u* as V and *jij* as T) and German (*Sie* as V and *du* as T) to not only gain insights into the dynamics of pronouns of address, but to also be able to draw conclusion about cultural differences. Numerous previous studies are dedicated to the investigation of cultural dimensions, and the analysis by Hofstede (1984) is one of the most known and used. The so-called “Hofstede dimensions” present six dimensions that aim to emphasize and define the cultural differences among national cultures. Every listed country receives a score out of 100 for each dimension. For example, the German score (66) for the dimension masculinity, which indicates to what extent a culture is driven by competition, achievement, and success, is considerably higher than the Dutch score (14). However, it is important to keep in mind that Hofstede’s (1984) data might be outdated as newer findings do not always match the former indications (e.g. van Hooft, van Mulken & Nederstigt, 2013). Still, these outcomes as well as other findings that link to cultural dimensions (e.g. Hall, 1963; Gudykunst, Ting-Toomey & Chua, 1988) demonstrate that cultural differences exist, and this study aims to further determine these aspects for the Dutch and German cultures.

The previous literature on T/V pronouns of address, especially Dutch and German ones, linked with health and crisis communication seems to be scarce. In the field of linguistics, the focus has mainly been on content words (Pennebaker, 2011), such as nouns, verbs, adjectives, and adverbs and less on so-called function words as, for example, pronouns. In cases of analysing pronouns, the aim was mostly to examine the effects of you-language compared to we-language (e.g. Tian et al., 2021; Tu et al. 2021). With regards to research concerning COVID-19, the central objective has been to evaluate the pandemic's impact on citizens and their well-being (Markowitz, 2021). Therefore, taking the previous literature into account, the following research question and hypotheses were formulated:

RQ: To what extent do T vs. V pronouns of address have an effect on the persuasiveness of pandemic-related messages in Dutch and German students?

H1: German speakers will perceive the V condition as more persuasive.

H2: Dutch speakers will perceive the T condition as more persuasive.

## **Method**

In order to find answers concerning the above-mentioned hypotheses and research question, a between-subjects experiment was conducted. Dutch and German participants were confronted with messages containing V or T and were asked to indicate the perceived persuasiveness they experienced with regards to the appeals to get vaccinated. In this way, one is able to observe potential differences in the degree of persuasiveness caused by V or T in Dutch and German natives.

## **Materials**

This study included two independent variables: type of pronoun and language. Both variables consisted of two levels. Regarding the type of pronoun, participants were confronted with either a T pronoun or a V pronoun in a message related to the current pandemic. Depending on the native language of the individual subject, the manipulated message was presented in either German or Dutch. The stimulus material that was used consisted of sixteen posters in total that advertise the vaccination against COVID-19. There were four different poster designs with

different wording, colours, and motives, and each design was adapted to every condition. This was carried out to account for the influence that the design or word choice has on the participants. In other words, half of these sixteen posters showed Dutch messages, while the other half of the messages were formulated in German. The versions of each language were manipulated by the inclusion of different second-person pronouns of address. To be exact, four posters depicted a message with the V pronoun *u* in Dutch, four posters showed a message with *Sie* in German, four posters included the T pronoun *jij* in a Dutch message, and *du* in German was incorporated into four posters showing the message. These posters and messages were designed and formulated exclusively for the purpose of this study to rule out that a subject was already influenced by a specific message beforehand. They were formulated by a group of German and Dutch natives. One message in each language and pronoun condition is presented in table 1, for all 16 posters see appendix A.

Table 1.

*Persuasive messages with T and V pronouns in Dutch and German*

Dutch V condition	Dutch T condition
German V condition	German T condition



## **Subjects**

There were 204 respondents in total and 94 individuals filled in the entire questionnaire. These 94 responses were taken into account for the statistical analysis. It was important to determine the nationality and the native language to be able to draw conclusions about cultural differences. Concretely, there were 51 Dutch participants with Dutch as their native language and 43 Germans with German as their native language. Both group's ages ranged from 18 to 25 years old, as other age groups were excluded from the study. With regard to gender, the answers of 50 females, 43 males and 1 individual that identifies as non-binary or as a third gender were included in the final analysis. The distribution of Dutch participants and Germans among the conditions was roughly equal: There were 27 Dutch subjects and 21 Germans in the T condition, while there were 24 Dutch respondents and 22 Germans in the V condition.

## **Design**

The implemented design was a 2x2 between-subjects design. Dutch participants were sent to the Dutch posters and vice versa for the German group. Roughly half of each language group evaluated four messages in the V condition and the other half was confronted with messages in the T condition. See appendix B for the analytical model, which conceptualises the proposed relation between the dependent variable persuasiveness and the independent variables type of pronoun and language.

## **Instruments**

There was one dependent variable in this study: persuasiveness. As Thomas, Masthoff and Oren (2019) describe, it is complicated to measure actual persuasiveness for several reasons, such as compounding factors that could influence the persuasion process. Therefore, they focused on perceived persuasiveness - the first step to definite persuasion. After taking various previous studies measuring persuasiveness into account (e.g. Feltham, 1994; Lehto, Oinas-Kukkonen & Drozd, 2012), they developed a new scale and identified three main factors that determine persuasiveness: effectiveness, quality, and capability. Effectiveness refers to an individual's goals, goal achievement, and attitude changes, while quality is concerned with message characteristics (strength, trustworthiness, and appropriateness). The third factor, capability, relates to the potential for motivating someone to change behaviour. With the

conduction of two studies, the authors were able to validate the newly created scale, which makes it very suitable for the measurement of persuasiveness in the present study. Thus, three English 7-point Likert scale questions for each determining factor, taken from Thomas et al. (2019) were implemented into the questionnaire (see appendix C). The anchors for the questions were “strongly disagree” and “strongly agree”.

The reliability of the scales for effectiveness, quality, and capability each comprising three items were tested separately by using Cronbach’s  $\alpha$  and according to Blanz (2015) they were all excellent: effectiveness:  $\alpha = .97$ ; quality:  $\alpha = .9$ ; capability:  $\alpha = .9$ . Hence, the means of the three items each were used to calculate the three aspects determining the dependent variable persuasiveness, namely effectiveness, quality, and capability. They were used in the further analysis.

## **Procedure**

Recruitment of the participants was based on non-probability sampling using convenience and voluntary response sampling. Links that lead to the experiment were posted and shared on social media, and subjects were approached directly and asked to take part in the study. The form of the experiment itself was a web-based questionnaire using Qualtrics. After clicking the link, the participants were confronted with an introductory page that contains information about the experiment as well as a consent form. Concretely, they were told that their data will be collected anonymously and solely for the purpose of research conducted by Radboud University, and it was communicated that the participants needed to indicate their confirmation of taking part in the experiment. The participants were informed that the study deals with vaccination campaigns and the use of T and V pronouns. Additionally, the introductory message included an estimation of the duration of answering the questionnaire of 10 minutes. The actual average time that was needed was indeed around 10 minutes.

After consenting to take part in the study, the participants were asked about their age, gender, nationality, and native language. The questions about the participant’s age offered two options: *18 to 25 years* and *other*. For the questions asking about participant’s nationality and native language, the subjects could choose between *Dutch*, *German*, and *other*. If in any of these questions the answer option *other* was selected, the participant was sent to the end of the survey. With regards to gender, the participants could choose between *female*, *male*, *non-binary/third gender*, and *prefer not to say*. After filling in their demographic information, the subjects were forwarded to a page showing the first poster promoting vaccines in one of the

conditions with the questions measuring persuasiveness. Then, after answering the set of questions for the first poster, the participant was asked to evaluate and answer the same questions for three more posters in the same procedure. Finally, there was a page expressing gratitude for taking part in the experiment.

### **Statistical Treatment**

A two-way independent samples ANOVA was conducted for the dependent variable persuasiveness, with language and type of pronoun as factors. In this way, the effect of two independent variables on a dependent one can be specified.

### **Results**

A two-way analysis of variance with native language and type of pronoun as factors neither showed a significant effect of native language on effectiveness ( $F(1, 90) = 1.48, p = .227$ ), nor did it show a significant effect of type of pronoun on effectiveness ( $F(1, 90) < 1, p = .759$ ). The interaction effect between native language and type of pronoun was also not statistically significant ( $F(1, 90) < 1, p = .774$ ).

In contrast, the two-way analysis of variance with native language and type of pronoun as factors showed a significant effect of native language on quality ( $F(1, 90) = 7.1, p = .009$ ). Concretely, the German participants rated the posters higher on quality ( $M = 4.7, SD = .94$ ) than the Dutch subjects did ( $M = 4.2, SD = .96$ ). However, it did not show a significant effect of type of pronoun on quality ( $F(1, 90) = 3.55, p = .063$ ) and the interaction effect between native language and type of pronoun was not statistically significant ( $F(1, 90) < 1, p = .574$ ).

Furthermore, the two-way analysis of variance with native language and type of pronoun as factors neither showed a significant effect of native language on capability ( $F(1, 90) < 1, p = .546$ ), nor did it show a significant effect of type of pronoun on effectiveness ( $F(1, 90) < 1, p = .579$ ). Likewise, the interaction effect between native language and type of pronoun was not statistically significant ( $F(1, 90) < 1, p = .626$ ).

All of these results are depicted in Table 2.

Table 2.

*The effect of T and V pronouns of address on effectiveness, quality, and capability in Dutch and German students*

		V condition	T condition	Total
Effectiveness	Dutch	$M = 3.5$	$M = 3.35$	$M = 3.42$
		$SD = 1.1$	$SD = 1.16$	$SD = 1.12$
	German	$M = 3.37$	$M = 3.72$	$M = 3.72$
		$SD = 1.1$	$SD = 1.43$	$SD = 1.25$
	Total	$M = 3.6$	$M = 3.51$	$M = 3.56$
		$SD = 1.09$	$SD = 1.29$	$SD = 1.19$
Quality	Dutch	$M = 4.45$	$M = 3.98$	$M = 4.2$
		$SD = .76$	$SD = 1.07$	$SD = .96$
	German	$M = 4.86$	$M = 4.6$	$M = 4.73$
		$SD = .78$	$SD = 1.08$	$SD = .94$
	Total	$M = 4.65$	$M = 4.25$	$M = 4.44$
		$SD = .79$	$SD = 1.12$	$SD = .98$
Capability	Dutch	$M = 4.3$	$M = 4.31$	$M = 4.3$
		$SD = .78$	$SD = .99$	$SD = .89$
	German	$M = 4.32$	$M = 4.52$	$M = 4.42$
		$SD = .89$	$SD = 1.11$	$SD = 1$
	Total	$M = 4.31$	$M = 4.4$	$M = 4.36$
		$SD = .82$	$SD = 1.04$	$SD = .94$

### Conclusion

Before the conduction of the experiment, the hypotheses that German speakers will perceive the V condition as more persuasive (H1) and that Dutch speakers will perceive the T condition as more persuasive (H2) were formulated. By reviewing the results, one can conclude that there is a lack of significant validation for both the first and second hypothesis. In other words, the persuasion of German participants was not higher in the V condition, while the persuasion of Dutch subjects also was not higher in the T condition. In fact, the V and T condition did not seem to – positively or negatively - influence the persuasiveness of the messages at all. However, the experiment revealed that the persuasiveness was rated slightly differently among

the two nationalities. Quality – one of the three concepts that persuasiveness is comprised of – was generally rated higher by German students than by Dutch ones, irrespective of the condition. There was no significant difference for the other two concepts, effectiveness and capability. Thus, T and V pronouns did not show a significant effect on the perceived persuasiveness, but it was, regardless of the type of pronoun, evaluated mildly higher by German students regarding quality – one determinant aspect of persuasiveness.

## **Discussion**

There are several possible explanations that could help to interpret the outcomes of this experiment. To begin with, this study did not exhibit a difference in persuasiveness with regards to the type of pronoun implemented into the persuasive messages. At this point, it is important to consider that all participants were students between the age of 18 and 25, thus there is no representation of multiple generations in this sample. However, it is probable that other generations would have been more sensitive to the confrontation of V and T, as House and Kádár (2020) report on generational differences in the preference of a V or T policy. Concretely, elder German participants were more unsatisfied with the T policy, which could indicate that with the inclusion of a wider age range in this study, a significant effect of type of pronoun might have been detected.

Nevertheless, next to the lack of significant results with regards to the type of pronoun, the German participants rated one aspect of persuasiveness – quality – higher than the Dutch speakers. It may be critical that the stimulus material was created by two Germans, and only agreed to by the Dutch part of the research team. This might imply that the German ideology and perspective, made of values appreciated by the German culture, had a substantial impact on the final designs of the posters. It might therefore be possible that a participant that shares the same or very similar values and perspectives, felt more persuaded by a message that was formulated on the basis of this German point of view.

Another possible explanation that could account for this difference also concerns cultural differences between the Dutch and German culture. Although it is not possible to verify the reasons of the outcomes based on these differences, as a cultural aspect was not measured in this experiment, it might serve as a starting point for future investigations. Tian, Kim and Solomon (2021) argue that the pandemic is perceived as an individual as well as a shared stressor by individuals. If one were to assess a subject's coping orientation (individual or shared), as suggested by Tian, Kim and Solomon (2021), it might be possible to relate the

outcomes to the individualism-collectivism dimensions proposed by Hofstede (1984). In other words, it is not improbable that members of one culture prefer to deal with the pandemic individually, while members of another one are more likely to deal with it in a communal manner, which could in turn also impact the way in which persuasive messages are perceived. Thus, assessing the coping mechanisms of subjects might reveal more insights into cultural differences and how they relate to the perception of V and T pronouns.

Similarly, the study of Tu, Chen and Mesler (2021) indicates that the level of self-control of an individual plays an important role in adhering to rules in relation to COVID-19. Participants with a high level of self-control are likely to follow the rules regardless of the pronoun condition, while participants with a low level of self-control are more likely to be influenced by the pronoun condition. This suggests that the variable self-control could have impacted the way in which participants respond to the persuasive messages. In terms of cultural differences, one could connect this notion to the indulgence-restraint dimension proposed by Hofstede (1984), as this deals with the degree of individuals trying to control their impulses and desires. Again, as a cultural component was not assessed in this study, it is not possible to justify the current outcomes based on this explanation, but it might be insightful to measure the variable self-control in relation to the cultural dimension indulgence-restraint together with V and T pronouns.

In any case, the differences between the two national groups in this investigation are limited. As the effect of language was a determining factor in the manipulation, one does not only need to consider the language of the stimulus material, but also the language used in the questionnaire. It is possible that the fact that all participants read the questions in English, eliminated or minimized the effect that the manipulated message in the respective native language had on the perceived persuasiveness. The validity of the experiment would increase, if the questions were also formulated in the respective language used in the persuasive messages. Besides, it would be insightful to work with more languages and nationalities, also outside the Germanic family and beyond European grounds. A start could be the investigation of the two Romance languages Spanish and French, as the T condition seems to be more common in Spanish, while the V condition seems to be more common in French (Levinsha, 2017), similarly to Dutch and German.

Additionally, another aspect that future researchers investigating this topic should consider is that more variables such as vaccination status or attitude towards the vaccine could have played a determining role in the perceived persuasiveness. In the questionnaire, the participants were asked if this message will change one's behaviour and causes one to make

behavioural or attitudinal changes. If a subject has already been vaccinated, it is not logical to state that this vaccination campaign will cause changes in one's behaviour and attitude, as the behaviour has already been executed and the attitude probably is accordingly positive. Although this is a sensitive matter, it might have made a difference to incorporate the participant's vaccination status and attitude towards the vaccine, as individuals with a positive attitude who already received the vaccine are probably already persuaded, while others might be more likely to still be persuaded.

Likewise, source credibility could have also been a crucial factor influencing the persuasion process. Tu, Chen & Mesler (2021) highlight the importance of this concept defined as "a situation where message believability is dependent on the credibility status of the sender in the minds and eyes of the receivers" (Umeogu, 2012, p. 112). A study investigating the outbreak control measures of the Ebola epidemic found significant evidence for the positive effect that a credible source had on the perceived trust toward measures such as vaccines (Vinck et al., 2019). These findings suggest that source credibility is a determining factor in following norms that are related to health and crisis communication, which is why the inclusion of a source in this experiment might have changed the perceived persuasiveness of the pandemic-related messages.

In terms of persuasion, it is important to consider that the final goal of the persuasion process is the execution of a desired behaviour. In this study, however, the measures are based on non-verifiable self-reports. Theoretically, the results would have been more valid if this experimental design was implemented in real-life national vaccination campaigns.

Furthermore, the purpose of the study was given away in the introduction of the experiment. Due to this, the subjects might have been focusing too much on the type of pronoun that was used, and consequently impacting the ecological validity of the study to a large amount. In a real-life setting, individuals are not likely to concentrate on the type of pronoun that is used when being confronted with such persuasive messages. Due to the fact that the manipulation was indicated in the introduction, however, the subjects were likely to pay unusually much attention to the V or T pronoun, which eliminates the subconscious effect that pronouns can have. Nonetheless, the fact that a between-subjects design was utilised probably limits this negative consequence.

Finally, one could give advice to health and crisis communicators on the basis of this study. As the sample consisted of students, the most reliable advice could be formulated for educational or governmental institutions who want to reach a younger audience with their campaigns. Concretely, the choice of which pronoun to use – T or V – is probably not that

crucial, as there was no evidence for an effect of the type of pronoun on persuasiveness found in this study. Thus, if the campaign should be spread in Germany and the Netherlands, one can claim that the type of pronoun of address does not play an enormous role, but it is probably important to take the cultural values in to account when creating the design of messages and posters. However, it is not possible to present recommendations based on this study about European or even world-wide campaigns, as it would be necessary to investigate more nationalities and languages.



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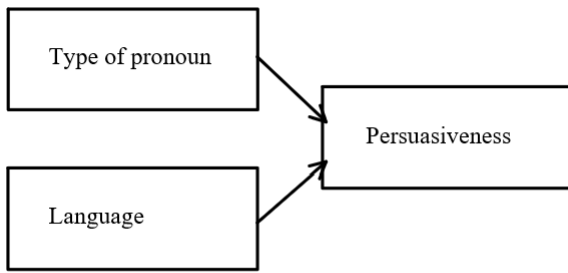
## Appendix A

Posters with the persuasive message in Dutch and German and different types of pronouns.

	Design 1	Design 2	Design 3	Design 4
Dutch V condition				
Dutch T condition				
German V condition				
German T condition				

## Appendix B

The analytical model.



independent variables

dependent variable

## **Appendix C**

Scale questions measuring persuasiveness taken from Thomas et al. (2019) and implemented in this study.

Questions measuring effectiveness:

- This message will cause changes in my behaviour.
- This message causes me to make some changes in my behaviour.
- After viewing this message, I will make changes in my attitude.

Questions measuring quality:

- This message is accurate.
- This message is trustworthy.
- I believe this message is true.

Questions measuring capability:

- This message has the potential to change user behaviour.
- This message has the potential to influence user behaviour.
- This message has the potential to inspire users.

## Appendix D

### 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 → Experiment → 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 E

# 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: Juliane Kowitz

Student number: s1037559

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: 8.6.22, Nijmegen