

Radboud University

## **Bachelor Thesis**

**The effects of T and V pronouns of address in COVID-19 vaccination advertisements  
among Dutch and German students**

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## **Abstract**

The rapid spread of the COVID-19 virus has posed a challenge to health institutions. Health communicators and politicians had to convince humanity to vaccinate against the virus. Since the risk of a severe course of infection appears to be lower in young people, it is particularly important to convince them of the vaccination against the virus. During the pandemic, the targeted application of pronouns proved successful in promoting certain behaviors among the population. The aim of this experimental study was to investigate the extent to which T vs. V pronouns of address have an effect on the persuasiveness of pandemic-related messages about the vaccine in Dutch and German students. In this study, 94 Dutch and German students took part in an online questionnaire, evaluating posters promoting the COVID vaccine containing either T or V pronouns of address. Findings showed that there were no differences in persuasive effects of T and V pronouns of address and no difference in the evaluation of the posters between Dutch and German students. This suggests that pronouns of address might not play a relevant role in the creation of persuasive messages in health communication for a young generation, especially students.

## *Keywords*

Pronouns of address, T and V pronouns, persuasiveness, quality, capability, effectiveness, students, COVID-19 vaccination, advertisements, health communication

## **Theoretical Framework**

### *Background information*

The COVID-19 pandemic, which has been ongoing since 2020, caused great turmoil and brought about major economic and social changes in society. Since the virus has a high contagion rate, the government, representatives, and local authorities must constantly convey messages about measures and regulations to society to prevent the spread and overloading of hospitals. These regulations often require the population to minimize or completely refrain from social contacts and change behaviour in everyday life, such as wearing a face mask in public (Jaworska, 2021). Health experts as well as national and international institutions such as the World Health Organization (WHO) are essential to maintain order during this pandemic and have knowledge and solutions on how to reduce health risks (Markowitz, 2020). Fortunately, for society vaccines for immunization against COVID-19 were rapidly developed by the pharmaceutical industry and are available since early 2021. At this stage of the pandemic, it is extremely important to persuade the population to get the COVID-19 vaccine. However, when looking at a survey in the Netherlands, 51.1% of the population was vaccine-hesitant at the time the survey took place (Yousuf et al., 2021).

### *Literature review*

During times of crisis such as the COVID-19 pandemic, politicians and authorities require excellent communication skills to convince the population of the positive impact of immunization and to get them to be vaccinated as soon as possible. To do so, over time, authorities around the world have used a variety of techniques. An analysis of the speeches of Angela Merkel, the chancellor of Germany until December 2021, revealed the use of a special technique to address the COVID-19 measures (Jaworska, 2021). According to Jaworska (2021), Merkel made use of a thought-out communication strategy that involved the use of the collective pronoun '*wir*' (we) and the personal pronoun '*du*' (you) to establish an interpersonal relationship with the listener. This interpersonal relationship was part of her persuasion technique to build a connection with the population (Jaworska, 2021). Markowitz (2020) investigated the relationship between communication patterns and COVID-19 cases by COVID-19 experts and found that experts tended to communicate in a formal and analytical manner once cases and deaths increased, which is the opposite of a storytelling or emotional approach. Due to the role of the WHO as a global health authority, the organization is expected to be impersonal and factual when having to report about fatalities due to their high status and evidence-based approaches (Markowitz, 2020). Research about the communication approach

taken by New Zealand's Prime Minister Jacinda Arden during the COVID-19 pandemic reveals a switch from a distanced and decisive and evidence-based communication strategy to a more empathetic approach over time (McGuire et al., 2020). Building an emotional bond with the population seems to be a promising crisis communication approach, especially for individual representatives such as politicians. This emotional appeal can be enhanced through the targeted use of pronouns of address as they play a role in how people feel a personal involvement in the message (Twenge et al., 2013).

Brown and Gilman (1960) investigated the distinction between the T and V pronoun of address (both originated from Latin, T derived from '*tu*' and V from '*vos*'). According to Brown and Gilman (1960), pronouns of address are associated with the dimensions of power and solidarity which as such are fundamental to social life as they determine which pronoun of address (T or V) is appropriate in communication. The power dimension is characterized by the distance between to speakers or one speaker's superiority over the other (wealth, working hierarchies, etc.). In contrast, the solidarity dimension is related to the degree of solidarity and familiarity of two interlocutors, which is characterized by ordinary things such as profession, political direction, or family (Brown & Gilman, 1960).

In German and Dutch, this balance between the power and solidarity dimensions decides whether a person addresses the interlocutor with the informal T pronoun (German '*du*', Dutch '*jij*' or '*je*') or with the formal V pronoun (German '*Sie*', Dutch '*u*'). Despite the common Germanic origin of the German and Dutch language, they differ in the use of T and V pronouns of address. A study by Levshina (2017) investigating the T and V pronouns in European languages by analyzing translations of English subtitles found that the use of the T and V pronoun for the Netherlands and Germany differed. Looking at the frequency distribution, Dutch subtitles entailed the T pronoun '*jij*' 159 times compared to the German version '*du*' 91 times whereas the V pronoun '*u*' appeared 73 times in the Dutch subtitles compared to the German version '*Sie*' which appeared 133 times (Levshina, 2017). This shows a substantial difference between Dutch and Germans' usage of pronouns of address, as the Dutch seem to prefer the T version and use it much more frequently than Germans. A study by ... also revealed that German participants commonly use the V prefer to use the informal V pronoun

Cultural distinctions could be contributing to these differences in pronoun preference. Looking at Hofstede's cultural dimensions, an indicator for how countries can differ for certain cultural dimensions, the two countries have similarities and differences. Both lean towards a more individualistic culture, Germany has a score of 67 and the Netherlands a score of 80, which promotes a greater self-focus on the individual rather than the collective (Hofstede

Insights, 2022). However, the two countries differ regarding the dimension of masculinity where Germany with a score of 66 represents a more masculine culture than the Netherlands which leans towards a more feminine culture with a score of 14 (Hofstede Insights, 2022). A more masculine culture exerts greater focus on ‘being the best’, assertiveness and decisiveness are highly valued, whereas a more feminine culture focuses on enjoyment, equality, and solidarity (Hofstede Insights, 2022). These subtle but significant differences might be an indicator that Germany’s masculine society leads to the preference of the V pronoun as it sets boundaries, is more formal and shows professionalism and reliability, which can be important when having to be assertive and show determination. In contrast, for the feminine society of the Netherlands, communicating solidarity and egalitarianism towards the interlocutor could be achieved by resorting to the T pronoun more often. This distinction between German and Dutch culture seems to be consistent with the dimensions of power and solidarity mentioned by Brown and Gilman (1960) and their assumptions on the use of T and V pronouns, German associated with the power dimension and the Netherlands with the solidarity dimension. Thus, the two languages form an important basis for investigation, as these differences could affect preferences in the form of address in important communication strategies.

In the context of cultural distinctions, societal developments, and the potential influence of this on the preference of certain types of pronouns of address, a study by Twenge et al. (2013) has shown that social changes in a culture can lead to a shift in pronoun preference. By investigating the changes in pronoun use in American books the study revealed that, overall, the rise of the second person pronoun in American literature could be connected to the rise of individualism in the country, potentially reflecting a social change over time (Twenge et al., 2013). The rise of individualism entails a promotion of greater self-focus and a general emphasis on the individual person rather than the collective (Twenge et al., 2013). Cultural differences and the adaptation of pronouns to a specific culture/society were also the focus in a cross-cultural study by House and Kádár (2020) where findings have shown that different cultures do indeed have different preferences when it comes to the use of pronouns of address. By investigating how the second person pronominal T pronoun approach in IKEA catalogues is translated internationally, House and Kádár (2020) found that editions of the catalogue targeted at countries such as Germany, the Netherlands, or Belgium preserved the Swedish preference for the T pronoun and used ‘du’, ‘je’, and ‘jij’ respectively, the editions for Mainland China and Japan implemented a mixed version with the V pronoun and an impersonal T pronoun, whereas the Belgian French and Hong Kong Mandarin editions switched to the V pronoun completely. These findings show that it is necessary to adapt a message, including the

pronoun, to a foreign culture and that cultural filtering may be necessary as to not be perceived as inappropriate (House & Kádár, 2020).

Cultural differences but also generational discrepancies continue to contribute to variation in the usage of pronouns of address. The study by Levshina (2017) provides other important findings regarding differences and progress in society regarding T and V pronouns of address usage. Findings include the fact that the T pronoun is commonly used to address children or younger people whereas the V pronoun is used for strangers and official contexts (Levshina, 2017). These findings are supported by other studies, such as the one by House and Kádár (2020), in which older German participants evaluated the T pronoun as more negative and deviating from the German advertising standards whereas younger German participants were divided in sharing this opinion displaying more tolerance towards the use of the T pronoun. If a generational difference can potentially contribute to a change in a preference in pronoun usage, it is important to investigate this further. In important communication messages, this could potentially cause a change in behaviour or attitude in the reader.

Being aware of the effects of a message on the addressee seems beneficial to formulating messages as convincingly as possible, which in challenging times like the COVID-19 pandemic is essential. Research in the field of persuasion in advertising is concerned with finding ways on how to create persuasive messages and in turn influence behaviour. Jaworska (2021) defines the term persuasion as a ubiquitous phenomenon people engage in, where some sort of convincing work is performed, to get their own way or influence behaviour. This type of persuasion has also been studied in relation to the use of certain pronouns (Cruz et al., 2017). Cruz et al. (2017) found that the presence (versus the absence) of second person pronouns in online brand messaging (posts made by brands on Facebook) does indeed result in a higher consumer involvement which was reflected in a higher like, comment, and share number of the posts. Moreover, the findings revealed that the increase of consumer involvement is due to a self-referencing effect which can be defined as the extent to which consumers relate the content of the message to themselves (Cruz et al., 2017). As this study has shown, the targeted application of a pronoun in a message can be effective when wanting to change the reception of a message itself but also the readers' behavior.

Moreover, persuasion plays a key role in advertising politics and institutions/authorities. According to Charteris-Black (2014), politicians need to balance interpersonal persuasion, where politicians need to convince individuals, and ideational persuasion, the overarching goal, in their communication, both of which are necessary to be persuasive. As Cruz et al. (2017) has shown, the individual persuasion can be enhanced by having addresses of a message self-

identify with the content of the message via, for example, the use of certain pronouns. A study by Chou and Yeh (2018) exploring voters' responses to minor language variation in campaign advertisements, including pronoun use, discovered that the pronoun '*we*' instead of '*the candidate and you*' significantly improved participants' advertisement attitudes and candidate-related responses. If minimal changes such as a pronoun of address in a text can lead to a significant positive development in favor of the sender of the message, pronouns of address in relation to campaign persuasiveness should be further investigated. Looking at communications issued by authorities, Tu et al. (2021) examined how first-person plural ('*we*') and second-person singular pronouns ('*you*') used in COVID-19 communications impacted people's likelihood to adhere to COVID-19 measures and restrictions (Tu et al., 2021). Overall, the use of the pronoun '*you*' in WHO communications about COVID-19 performed better than the pronoun '*we*' and participants with a lower self-control were more inclined to adhere to measures when the pronoun '*you*' (instead of '*we*') was used, again proving that the choice of pronoun type can be a significant factor in persuasion strategy (Tu et al., 2021). Pronouns can play a central role in advertising and persuasion strategies and can therefore be a helpful tool for creating persuading advertising campaigns for the COVID-19 vaccine.

Since German and Dutch application of pronouns of address differ (see Levshina, 2017), there is a need to explore the potential benefits these insights could contribute to the creation of international advertisements and communications around COVID-19. Previous research was mainly focused on the examination of the collective pronoun type '*we*' versus individual pronoun '*you*' in relation to persuasion and behavior changes (see Tu et al., 2021; Chou & Yeh, 2018) or the evolution and rise of the pronoun '*you*' (see Twenge et al., 2013; House & Kádár, 2022). However, a research gap persists regarding the specific form of T and V pronouns of address in combination with persuasion strategies and potential benefits a targeted use of these pronouns can have. As there is an established difference in Dutch and German usage of pronouns of address, this investigation of advertisements containing either a T or V pronoun aims to contribute to the field of persuasion research. Adding to the theoretical research on persuasion in connection with T and V pronouns of address, an analysis of the addressee's reactions will try to offer valuable contributions to the effectiveness of persuasion strategies.

Moreover, the research will offer implications for the practical application of vaccination advertising and could be an aid for institutions and representatives in the field of crisis and health communication. Another gap persists in a lack of exploration of young people's, especially students, attitude towards vaccination. Research has shown that younger people's infection with COVID-19 often remains asymptomatic; however, despite none or only

mild symptoms individuals still are contagious (Rashedi et al., 2020). Chan et al., 2020 investigated a family cluster in relation to the coronavirus infection and found that person-to-person transmission is a key element and one can spread the virus while being asymptomatic at the same time, thus remaining a threat to society. Yuan et al. (2020) found that younger people perceive the virus to be less dangerous for themselves but higher for others and a high-risk perception is associated with higher adherence to regulations. These facts underline the need for effective campaign promotion of the COVID-19 vaccine to reduce its spread among the younger members of society. With the background knowledge of the potential relationship between campaign persuasiveness and pronoun use (Tu et al., 2021; Cruz et al., 2017) together with findings showing potential generational differences in relation to certain pronoun preferences (House & Kádár, 2020; Levshina, 2017) it is now important to create convincing campaigns, designed to be persuasive for the younger generation.

### *Objectives*

This study aims to precisely fill this scientific gap, namely the potential connection between campaign persuasiveness and the use of pronouns of address among a young generation. Therefore, this experimental study addressed the following research question: to what extent do T vs. V pronouns of address have an effect on the persuasiveness of pandemic-related messages about the vaccine in Dutch and German students? This question is further defined by a set of subsequent hypotheses. Based on findings by Levshina (2017), Germans and the Dutch use pronouns of address differently with Germans using the V pronoun more often than the Dutch who used the T pronoun more often. Additionally, research by House and Kádár (2020) found that Dutch and German IKEA catalogues both adapted the original T pronoun; however, German participants evaluated the use of the T pronoun as deviating from advertising standards. Thus, the first hypothesis is:

- H1: The use of the T pronoun in pandemic-related messages will lead to a higher persuasiveness than the use of the V pronoun for Dutch participants compared to German participants

Moreover, the study by Levshina (2017) revealed that the T pronoun was commonly used to address a younger audience, who is the subject of this study. Research by House and Kádár (2020) further showed that the tolerance of the T pronoun is increasing for a younger generation in Germany. Furthermore, several studies have shown that by using the T pronoun of address in messaging can induce a certain level of self-referencing in the reader, which strengthened the perceived involvement of the reader and resulted in a positive attitude towards the message



(see Twenge et al., 2013 & Cruz et al., 2017). Together, given that this study is investigating the effects of T and V for a young generation (students) the generational difference and induced self-referencing when reading a message containing the T pronoun, could lead to an overall better evaluation of the pandemic messages containing the T pronoun of address versus the V pronoun of address. The following second hypothesis arises:

- H2: The use of the T pronoun in pandemic-related messages will lead to a higher persuasiveness than the V pronoun for both Dutch and German students.

## **Method**

### *Materials*

The stimuli material consisted of 16 (8 German, 8 Dutch) advertising posters containing pandemic-related messages regarding the COVID-19 vaccine. In total, there were four different poster designs (Poster 1-4) each containing a different pandemic message. The manipulated variable on the posters was the type of pronoun of address (T or V) that was present in the pandemic message. The posters were produced in both German and Dutch and either contained the T pronoun or V pronoun in the pandemic message. The same pandemic messages were used for both language conditions (Dutch and German) and were checked by Dutch and German native speakers in advance to ensure that the messages are worded correctly and as similar as possible in their expression. The four different poster designs that each participant was shown were created to draw the participants' attention away from the manipulated variable (type of pronoun of address). Two poster designs depicted people's faces on the poster (Poster 2 'Doctor' and Poster 4 'Scary'), whereas the other two designs depicted objects as the main feature (Poster 1 'Needle' and Poster 3 'Globe'). An English translation of every pandemic message on the poster is provided in table 1. An overview of the different pandemic messages for all poster conditions (German/Dutch, T/V) is provided in table 2. Additionally, the final poster versions as distributed in the questionnaire can be found in Appendix A.

**Table 1.** English translations of the four different pandemic messages on the final posters.

Poster 1 'Needle'	Get vaccinated!
Poster 2 'Doctor'	Are you already vaccinated?
Poster 3 'Globe'	You are vaccinated? Then you are protected.
Poster 4 'Scary'	Protect yourself and everybody else. Get vaccinated!

**Table 2.** Overview of the different pandemic-related messages on the posters in German, Dutch and English translations.

		German	Dutch
Poster 1 'Needle'	V pronoun	Lassen Sie sich impfen!	Laat u vaccineren!
	T pronoun	Lass dich impfen!	Laat je vaccineren!
Poster 2 'Doctor'	V pronoun	Sind Sie schon geimpft?	Bent u al gevaccineerd?
	T pronoun	Bist du schon geimpft?	Ben je al gevaccineerd?
Poster 3 'Globe'	V pronoun	Sie sind geimpft? Dann sind Sie geschützt.	Bent u gevaccineerd? Dan bent u beschermd.
	T pronoun	Du bist geimpft? Dann bist du geschützt.	Ben je gevaccineerd? Dan ben je beschermd.
Poster 4 'Scary'	V pronoun	Schützen Sie sich und alle anderen. Lassen Sie sich impfen!	Bescherm uzelf en alle anderen. Laat u vaccineren!
	T pronoun	Schütze dich und alle anderen. Lass dich impfen!	Bescherm jezelf en alle anderen. Laat je vaccineren!

### *Subjects*

A total of 204 participants took part in this study. 110 participants had to be excluded due to not answering all the items in time, not agreeing to the sharing of their data, or indicating a native language other than Dutch or German. After removing the incomplete data sets, the final number of participants with valid responses was 94. The age of the participants ranged from 18 to 25. The gender distribution was as follows: 50 (53.2%) identified as female, 43 (45.7%) identified as male, and 1 (1.1%) of the participants indicated their gender as non-binary. Among the participants, 51 (54.3%) were Dutch with a native language of Dutch and 43 (45.7%) were German indicating their native language as German. Among the 51 Dutch participants, 27 were assigned to the T pronoun condition and 24 to the V pronoun condition in the experiment. Within the German participant group, 21 participants were assigned to the T pronoun condition and 22 to the V pronoun condition.

### *Design*

The study had a 2 (Dutch / German) x 2 (T pronoun / V pronoun) between-subjects design. This design was chosen so participants were only exposed to one poster condition. This was to avoid participants' understanding of what was to be examined and avoid the development of a bias which could have influenced the results of the study.

### *Instruments*

The questionnaire was composed of nine items which measured three factors, i.e., effectiveness, quality, and capability of the posters. Together, those three factors were used as indicators for the overall persuasiveness of the poster. The measurement scale for each item was a seven-point Likert scale (based on Thomas et al., 2019) ranging from 'strongly disagree' – 'strongly agree'. Effectiveness entailed three items posing the following three statements: 'This message will cause changes in my behaviour', 'This message causes me to make some changes in my behavior', and 'After viewing this message, I will make changes in my attitude'. Quality of the poster was measured with the three statements 'This message/campaign is accurate', 'This message/campaign is trustworthy', and 'I believe this message/campaign is true'. Capability of the poster was measured with the following three statements: 'This message has the potential to change behavior', 'This message has the potential to influence behavior', and 'This message has the potential to inspire'. To test the reliability of the scale items, a reliability analysis was conducted. For each factor, the Cronbach's alpha score was above .80 which, according to the Vademecum Reporting Research for Communication and Information Studies at Radboud University (2022), is considered good. An overview for the Cronbach's alpha score for each factor is provided in table 3.

**Table 3.** Overview of scale items for the three factors effectiveness, quality, and capability (based on Thomas et al., 2019)

	Cronbach's alpha	Scale items
Effectiveness	$\alpha = .97$	'This message will cause changes in my behavior' 'This message causes me to make some changes in my behavior' 'After viewing this message, I will make changes in my attitude'
Quality	$\alpha = .90$	'This message/campaign is accurate' 'This message/campaign is trustworthy' 'I believe this message/campaign is true'
Capability	$\alpha = .90$	'This message has the potential to change behavior' 'This message has the potential to influence behavior' 'This message has the potential to inspire'

### *Procedure*

The study was conducted in the form of an online questionnaire in Qualtrics (<https://www.qualtrics.com>) in which participants evaluated the posters on their persuasiveness regarding the Covid-19 vaccine. The questionnaire was conducted on an individual basis. Participants were recruited from the researchers' own social circles via social media (WhatsApp, Facebook, Instagram) to ensure that all participants were students. The questionnaire was administered in English. Participants received a link to the questionnaire and were asked to first read an introduction page where it was clearly stated that participation was on a voluntary basis and participants were able to withdraw their participation at any time. Furthermore, it was brought to the participants attention that the collected data will be shared among researchers anonymously. Participants gave their consent by clicking 'I agree with the terms and want to participate in this study' or denied participation by clicking 'I do not want to participate in this study'. Participants were asked only to participate in the study if they are currently enrolled in a university. After giving their consent, participants were asked to fill in personal information regarding their age, gender, nationality, and native language. Afterwards, participants were randomly assigned to one of the four conditions and instructed to evaluate the posters (either Dutch or German, T or V pronoun) on a rating scale. Participants were exposed

to one poster at a time and were asked to rate the poster afterwards. This process was repeated with the remaining three posters which contained a different pandemic message and background. Lastly, a thank you message stating ‘Thank you for your participation in this study’ appeared on the screen. Completing the questionnaire took about 10 minutes and participants received no compensation for taking part in the study.

### *Statistical Treatment*

To see whether German and Dutch participants evaluated the persuasiveness of the four posters differently, a two-way univariate analysis of variance with between-subject factors (two-way ANOVA) with the categorical variables language (Dutch/German) and type of pronoun of address (T/V) for each dependent variable (effectiveness, quality, and capability) was conducted. An overview of the variables used in this study is provided in the analytical model in Appendix B.

## **Results**

The purpose of the study was to investigate to what extent T vs. V pronouns of address have an effect on the persuasiveness of pandemic-related messages about the vaccine in Dutch and German students. The study was conducted in the form of an online questionnaire. Persuasiveness of the pandemic-related message was measured with the following factors: effectiveness, quality, and capability of the message.

### *Effectiveness*

A two-way analysis of variance with native language and type of pronoun as factors showed no significant main effect of native language on effectiveness ( $F(1, 90) = 1.48, p = .227$ ). Type of pronoun was not found to have a significant main effect on effectiveness ( $F(1, 90) < 1, p = .759$ ). The interaction effect between native language and type of pronoun was not statistically significant ( $F(1, 90) < 1, p = .774$ ). An overview of the means and standard deviations is provided in table 4.

**Table 4.** Means and standard deviations (between brackets) for the effectiveness of pandemic-related messages in function of native language and pronoun type (1 = strongly disagree, 7 = strongly agree)

	German	Dutch	Total
	M (SD) n	M (SD) n	M (SD) n
V pronoun	3.73 (1.10) 22	3.50 (1.10) 24	3.60 (1.10) 46
T pronoun	3.72 (1.43) 21	3.35 (1.16) 27	3.51 (1.29) 48
Total	3.73 (1.25) 43	3.42 (1.12) 51	3.56 (1.19) 94

#### *Quality*

A two-way analysis of variance with native language and type of pronoun as factors showed a significant main effect of native language on quality ( $F(1, 90) = 7.10, p = .009$ ). German participants ( $M = 4.60, SD = 1.08$ ) evaluated the posters to have a higher quality than Dutch participants ( $M = 3.98, SD = 1.07$ ) in the T condition. In the V condition, German participants ( $M = 4.86, SD = .78$ ) evaluated posters to have a higher quality than Dutch participants ( $M = 4.45, SD = .76$ ). Type of pronoun was not found to have a significant main effect on quality ( $F(1, 90) = 3.55, p = .063$ ). The interaction effect between native language and type of pronoun was not statistically significant ( $F(1, 90) < 1, p = .574$ ). An overview displaying the means and standard deviations is provided in table 5.

**Table 5.** Means and standard deviations (between brackets) for the quality of pandemic-related messages in function of native language and pronoun type (1 = strongly disagree, 7 = strongly agree)

	German	Dutch	Total
	M (SD) n	M (SD) n	M (SD) n
V pronoun	4.86 (.78) 22	4.45 (.76) 24	4.64 (.79) 46
T pronoun	4.60 (1.08) 21	3.98 (1.07) 27	4.25 (1.11) 48
Total	4.73 (.94) 43	4.20 (.96) 51	4.44 (.98) 94

#### *Capability*

A two-way analysis of variance with native language and type of pronoun as factors showed no significant main effect of native language on capability ( $F(1, 90) < 1, p = .546$ ). Type of pronoun was not found to have a significant main effect on capability ( $F(1, 90) < 1, p = .579$ ). The interaction effect between native language and type of pronoun was not statistically

significant ( $F(1, 90) < 1, p = .626$ ). An overview of the means and standard deviations for capability is presented in table 6.

**Table 6.** Means and standard deviations (between brackets) for the capability of pandemic-related messages in function of native language and pronoun type (1 = strongly disagree, 7 = strongly agree)

	German	Dutch	Total
	M (SD) n	M (SD) n	M (SD) n
V pronoun	4.32 (.89) 22	4.30 (.79) 24	4.31 (.82) 46
T pronoun	4.52 (1.11) 21	4.30 (.99) 27	4.40 (1.04) 48
Total	4.42 (1.00) 43	4.30 (.89) 51	4.36 (.94) 94

### Discussion

This study investigated the effects of T and V pronouns of address on the persuasiveness, measured with the effectiveness, quality, and capability, of pandemic-related messages about the COVID-19 vaccine in Dutch and German students. The first hypothesis predicted that the use of the T pronoun in pandemic-related messages will lead to a higher persuasiveness than the use of the V pronoun for Dutch participants compared to German participants. This was assumed due to the overall preference of the T pronoun in subtitles for the Netherlands compared to Germany whose subtitles contained the V pronoun more frequently (Levshina, 2017) and the adaptation of the T pronoun in catalogues by Dutch and Germans and negative attitude towards the T pronoun as it deviates from advertising standards in Germans (House & Kádár, 2020). However, this hypothesis was not confirmed. No significant main effect for the impact of pronouns nor a significant interaction effect between language and pronoun was detected for either country. The lack of significant results could be because the test subjects in this experiment were Dutch and German students thus the experiment tested the attitudes towards the use of T and V pronouns of a younger generation. Therefore, it can only be said that no persuasive effects and differences regarding the use of T and V pronouns of address were found for young Dutch and German people. Findings by House and Kádár (2020) suggest that younger German participants did display a higher tolerance towards the use of T pronouns compared to older German participants. Therefore, it could be that young people simply pay less attention to the type of pronoun of address and other factors have a greater influence on persuasiveness for a younger audience. Research by Cruz et al. (2017) has shown that the use

of the second person pronoun does positively impact consumer involvement and studies by Chou and Yeh (2018) and Tu et al. (2021) also found a positive influence of the second person pronoun on persuasiveness in politics and health communication. However, the results of this study show that for young Dutch and German participants, there is no preference for a specific type of pronoun of address in health communication. Health communicators and politicians can use these insights for future campaigns and the fact that the power of persuasion for a young generation might not rest on the type of pronoun of address is valuable on such important issues.

Even though most statistical tests remained non-significant there was one significant main effect regarding the evaluation of the perceived quality of the posters. German participants perceived the posters to be of a higher quality than Dutch participants, for both pronoun conditions (T and V). Although this effect is independent of the pronouns displayed on the posters as both pronoun conditions are affected by this, it can provide helpful insights for the creation of campaigns. It was mentioned earlier that the Netherlands and Germany differ in certain cultural dimensions, including the dimension of masculinity (Hofstede Insights, 2022). Germany is characterized as a more masculine culture than the Netherlands which means that the focus is more geared towards achievement, assertiveness, and the ability to ‘be the best’, whereas the Netherlands as a more feminine, egalitarian society is focused on enjoyment and showing solidarity (Hofstede Insights, 2022). The focus of Germans on achievement and being the best could be associated with a focus on the quality of the message. The scale items to measure the dependent variable quality in the questionnaire were adapted from the study by Thomas et al. (2019). In their questionnaire, ‘quality’ measures the characteristics of the message associated with trustworthiness and appropriateness and especially the item ‘accurate’ was associated with being reliable and a message being based on facts and rationality (Thomas et al., 2019). This characteristic could have led to German participants paying closer attention to the quality of the poster compared to Dutch participants. Even if these insights do not show any influence of pronouns of address, they could be important for the development of health communication messages. The quality factor seems to be an important aspect that is paid attention to, especially among German students, and thus also contains a potential for persuasiveness.

The second hypothesis predicted that the use of the T pronoun in pandemic-related messages will lead to a higher persuasiveness than the V pronoun for both Dutch and German students. This was predicted due to the generational differences in pronoun preferences that were present in addressing a younger audience with the T pronoun in the study by Levshina (2017) and the more tolerant attitude of the younger German participants towards the use of the



T pronoun in advertising compared to older participants in the study by House and Kádár (2020). Additionally, the use of the T pronoun in advertising messages has proven to be beneficial due to the self-referencing and personal involvement induced in the reader (see Cruz et al., 2017 & Twenge et al., 2013). This hypothesis was not confirmed. There was no main effect proving that one of the type of pronouns of address has an impact on persuasiveness and no significant interaction effect between language and pronoun type. The lack of significant results could be due to the fact that cultural differences do not impact the type of pronoun of address preference of young students in Germany and the Netherlands. Even though research by Levshina (2017) and House and Kádár (2020) suggests a preference of the T pronoun for a younger generation, the targeted use of pronouns of address might not have an impact on the persuasiveness of a message for younger people. Even though Twenge et al. (2013) saw a potential connection between the growth of individualism in a country and the increased occurrence of second-person pronouns in books, this does not necessarily have to translate into certain type of pronoun of address preferences. The lack of significant results could be an indication that the self-referencing might not be a variable affecting behavior when a person has to make health important medical and health decisions. Even if the influence of pronouns in the context of collectivism and individualism has achieved effects (see Chou & Yeh, 2018; Tu et al. (2021), this might not be the case for pronouns of address. These insights show that further research needs to be conducted to identify persuasive effects, especially for young people.

### *Limitations and Future Research*

Despite the insights this study provided into the use of pronouns in relation to persuasion and campaign effectiveness, especially for a younger generation, the study was subject to some limitations. As already mentioned, this study shows no persuasive effects of pronouns of address for Dutch and German students. The participant pool consisted largely of the researchers own social circles. This was due to convenience and the assurance to find enough participants to participate without compensation. This does not rule out potential effects of pronouns of address in other age groups, and same-aged people in other life stages. In the future, the pool of participants should be expanded to determine whether pronouns of address in health communication can be helpful for other generations in terms of persuasion.

This study referred to the countries Germany and the Netherlands. This limits the investigation of T and V pronouns of address in relation to persuasiveness to only two European countries and languages. To create international campaigns and examine their effectiveness and the potential influence of pronouns of address on persuasiveness, future studies should examine

other countries and their attitudes and expand the subjects of investigation beyond a western European perspective to see whether the evaluations of the use of T and V pronouns of address are reflected or differ from the results in this study.

Furthermore, source credibility and trustworthiness could have an influence on persuasiveness. Findings by Thomas et al. (2019) determining the validity of the scale items show that participants rated the message of a significantly higher quality when the message originated from an 'expert in the field'. However, no information regarding the source of the pandemic message was provided on the posters in this experiment and participants were unable to base their evaluation on whether they trusted a specific source. Therefore, this factor could not be included, and it is not possible to say whether pronouns of address in connection with source credibility could influence the persuasiveness of a message.

One factor that may have affected the participants in their evaluation of the posters was that the aim of the study was stated on the information page on Qualtrics for the participants, which could potentially have influenced the results if participants read the information thoroughly. Since the manipulation was made known in advance, it is possible that the posters' evaluations were no longer made intuitively but made with the manipulation and potential goals of that manipulation in mind. In future studies, the reason for the survey could be kept secret or only disclosed after completion of the experiment to avoid a potential bias of the participants from the start.

Furthermore, the study was conducted at a time during the pandemic in which all participants had already had the opportunity to receive a COVID-19 vaccination and had therefore already established an attitude towards the vaccination in general. The general attitude towards vaccination could significantly influence the evaluation of the pandemic messages. A study by Chayinska et al. (2021) examined how likely conspiracy beliefs about the COVID-19 outbreak and distrust of epidemiological science predict an optimistically biased risk perception and found that, for German participants, the trust in science was associated with a higher willingness to engage in preventative measures to the COVID-19 outbreak. This distrust could play a major role in the evaluation of pandemic messages and contribute to a negative evaluation. The issue of COVID-19 vaccination is very polarizing and since the pandemic began many people have probably taken a 'pro' or 'against' vaccination side. With such strong opinion forming, the effect of T and V pronouns of address may simply be too small to have been detectable in the study. In the future, a less polarizing message could be used to determine a possible influence of V and T pronouns of address. Another insightful approach for future studies would be to ask about the general attitude towards vaccination beforehand and to see if,

especially for people with a negative attitude towards vaccination or a higher general distrust in science, the use of certain pronouns of address proves to be a potential factor to influence their behavior.

Another question that remains is whether a significant effect between the use of T and V pronouns would have emerged with a larger number of participants. Unfortunately, a majority of the participants in this study had to be removed from the final analyses due to incomplete information. There might have been other effects if the number of participants was higher. In the future, the study could be conducted with a larger number of participants and investigate whether a different main effect would be discovered.

Despite the limitations of this study, its design and findings have been thought-provoking and have revealed weaknesses and potential for improvement for future studies. The targeted use of pronouns in relation to health communication and persuasiveness has proven to be successful and thus an effect of T and V pronouns of address cannot be ruled out. The realization that vaccination-related content may be too strong for an effect of T and V can already be used by health institutions as an aid by either adjusting the intensity of the message or resorting to other means to communicate these issues. In this way, the present study has provided a good basis to stimulate further research in the area of pronouns of address.

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## Appendix

### Appendix A: Final poster versions (16 items)

Dutch posters: V condition



Dutch posters: T condition





German posters: V condition





German posters: T condition



## Appendix B: Analytical Model

