

# Cultural Differences in Non-verbal Communication

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## Abstract

According to Hofstede (1983), people from a high uncertainty culture are highly expressive, make use of gestures and show emotions often. People in a low uncertainty culture are less expressive and less openly anxious. This study explores Hofstede's theory, by comparing the non-verbal communication of participants in the show 'The Voice of ...' from high and low uncertainty avoidance culture, represented by China and Belgium. By means of doing a perception test and labelling, a comparison could be made. According to the theory, Belgian candidates were expected to react more expressive, show more emotions and use more gestures than Chinese. But this research shows the opposite: Chinese candidates show more expression than Belgian candidates, and were perceived happier overall as well.

**Keywords:** Uncertainty avoidance; Hofstede; non-verbal communication; gestures; expressivity; cultural difference; perception test; emotions

## Introduction

Hofstede (1983) developed a tool, an empirical model, to differentiate 'dimensions' of national culture. He identified five dimensions and rated 53 countries on indices for each dimension (from 0-100). One of these dimensions is the uncertainty avoidance, according to Hofstede (1983) "the extent to which the members of a culture feel threatened by ambiguous or unknown situations and have created beliefs and institutions that try to avoid these" (p. 18 ). There is a distinction between a high (100) and low (0) uncertainty avoidance culture. The differences between these cultures become, among others, visible in the non-verbal communication (Sears & Jacko, 2007).

According to this theory, people in high uncertainty cultures are expressive, talk with their hands, raise their voices and show emotions. They seem active, emotional - even aggressive and shun ambiguous situations. Examples of countries with a high index of uncertainty avoidance are Belgium, Greece, Russia and Italy. On the other hand, people in low uncertainty cultures are less expressive and less openly anxious. They behave quietly without showing aggression or strong emotions. Examples of countries with a low index of uncertainty avoidance are Singapore, China, Indonesia and the United Kingdom (Sears & Jacko, 2007).

This study explores this theory, by comparing the non-verbal communication of people from both high and low uncertainty avoidance cultures. We make a comparison between 'The Voice of Vlaanderen', where the uncertainty avoidance is very high, and 'The Voice of China', where the uncertainty avoidance is very low. We can formulate the following research question:

Which differences in expressions and gestures, if any, do we see when comparing a high and a low uncertainty

avoidance culture, looking at the reaction of candidates of 'The Voice of ...'?

## Stimuli Collection

### Selection criteria and Procedure

In order to compare the two cultures, a television program was selected in which certain emotions were portrayed. Two potentially greatly visible emotions were chosen in particular: happiness and disappointment. For this reason, and because it has been aired in both Belgium and China, the program 'The Voice of ...' was chosen.

'The Voice of ...' is a talent show focused on singing. The novelty of it, compared to other talent shows, is that the first round of auditions is 'blind': the four judges have to base their judgement purely on the singing and not on looks. If they want the candidate on their team, they have to push a button, after which their chair will turn around. If more judges want the candidate, he or she gets to pick a judge.

### Clips

For the clips, it was important that the fragment would be a moment as emotional as possible for the candidate. For the candidates that did not proceed to the next round, this is the moment their song is over and no judges have turned around. For candidates that did proceed this moment was somewhat harder to pick, because they are still singing at the moment they know their verdict and the perceivable emotion of the candidate might be affected by their empathy and choice of song. It was therefore decided to start from the moment the music stopped in all conditions. For an example frame, see figure 1.



Figure 1: Example frame of a fragment with which the perception test was conducted

In order to compare the countries, as well as the emotions of the candidates taking gender into account, the design had to be a 2x2x2 within-subject design. 6 clips were collected

per condition, so the corpus exists of 48 clips in total. While collecting these clips, it was taken into account that the candidate would ideally be in view as long as possible. The Chinese clips were collected from YouTube, and the Belgium clips from the VTM-website.

### Video Editing

The videos were played from either YouTube or VTM's website, and were recorded directly using Camtasia Studio 8. The recording would only entail the screen on which the show was playing, so the subjects would only see the images of the original show. It would start exactly when the music stopped and record for exactly 15 seconds, so it would be manageable for the participants of the perception study to review all clips. The clips entailed a combination of shots, close-ups and long shots, mostly from the candidate, the judges, the candidate's family watching the audition backstage and reactions from the audience. In Camtasia Studio, the audio track was removed.

### Coding

The most extreme clips, in terms of happiness and expressiveness, needed to be labeled to see if our findings match the results. We decided to compare the average scores and to select the outliers. After the selection, we decided to only focus on the happiest and most disappointed candidates, because expression is not 'countable'. The ECSI model was used to count the gestures and expressions of the candidates. We selected two clips per condition for each country, with a total of 8 clips.

- Happy: China – Belgium
- Disappointed: China – Belgium

### Perception Test

#### Participants

24 people participated in this study. The participants were all native Dutch speakers, with an age ranging from 22 to 61 years old.

#### Materials and Procedure

The perception study consisted of two parts, and took roughly 20 minutes per participant. Firstly, the participant was instructed on how the experiment was going to work (see appendix 1). This instruction entailed a short explanation of the experiment's goal, what the participant was supposed to fill in and on which parts of the clips he or she should focus (namely, the candidate of the show and not the judges, family or audience). They were specifically instructed to base their answers on the emotion they saw the candidate express, and not on either what they presumed the candidate would express given the verdict, or the reactions of other people in the clip.

The second part – the experiment itself – consisted of watching a clip, and answering two questions about each fragment directly after watching. This was repeated 48 times

(once for every clip), and the clips were distinctly shown in a PowerPoint presentation. The clips were completely randomized, so the participant could never rely on previously seen fragments of the same gender, country and verdict directly. Each participant had to fill in the extent to which they thought the candidate was introvert/expressive, and disappointed/happy, on a question form which can be found in appendix 2. A 6-point scale was chosen, to make sure that the participants could not answer the questions neutrally. On both the question form and the PowerPoint, the number of the fragment was clearly shown, to prevent the participant from mixing up clips and answers.

## Results

### Perception test

Two repeated measures anovas have been conducted: with nationality (China/Belgium), gender (male/female) and verdict (positive: through to next round and negative: not through to next round) as independent variables. Dependent variables are divided in expressivity and happiness.

**Expressivity** Expressivity has been measured on a 6-point Likert scale to see if contestants from different nationalities and gender and with a different verdict show more or less expressivity after their performance. For the interpretation of these results we need to look at the means on the expressivity-score. The means are shown table 1.

Table 1: Means and standard deviation of dependent variables on expressivity.

		Mean (sd)
Nationality	Chinese	3,293 (.105)
	Belgian	2,643 (.100)
Gender	Male	2,991 (.111)
	Female	2,946 (.083)
Verdict	Positive	3,330 (.105)
	Negative	2,607 (.086)

The first independent variable is nationality. As our data violated the assumption of sphericity ( $p < .001$ ), we looked at the values in the Greenhouse-Geisser. When using a repeated measures anova with Greenhouse-Geisser correction, the mean scores for nationality were significantly different ( $F(1, 22) = 47.718, p < .0001$ ). Therefore, there is a main effect of nationality. Looking at the means, we see that Chinese candidates overall have a significantly higher score on expressivity than Belgian candidates and are therefore more expressive than Belgians.

The second independent variable is gender. Sphericity is not violated ( $p = .400$ ). When using the repeated measures anova, there is no statistically significant difference found on gender.

The third independent variable concerned the verdict of the contestants' performance. Sphericity is violated again ( $p < .001$ ). Looking at the Greenhouse-Geisser, the results show that the mean scores of expressivity on verdict were

significantly different ( $F(1, 22) = 149.115, p < .001$ ). There is a main effect of result on expressivity. Not looking at culture, people who proceed to the next round show more expression than people who did not.

The results also show interaction effects. There was an interaction effect on nationality\*verdict ( $F(1, 22) = 31.233, p < .001$ ). This interaction effect indicates that Chinese candidates show significantly higher on expressivity when the verdict is positive than candidates from Belgium. Table 2 shows the means of this interaction effect.

Table 2: Means and standard deviation on expressivity of nationality\*verdict interaction

Nationality	Verdict	Mean (sd)
Chinese	Positive	3,866 (.117)
	Negative	2,721 (.104)
Belgian	Positive	2,793 (.132)
	Negative	2,493 (.097)

There is also an interaction on all three of the independent variables: nationality\*gender\*verdict ( $F(1, 22) = 85.151, p < .001$ ). The means show that the highest score for expressivity is shown by the Chinese males who get a positive verdict. The Chinese females also score significantly higher in comparison with the Belgian females. Table 3 shows these means.

Table 3: Means on expressivity of nationality\*gender\*verdict interaction

Nationality	Gender	Verdict	Mean (sd)
Chinese	Male	Positive	4,174 (.099)
		Negative	2,493 (.101)
	Female	Positive	3,558 (.145)
		Negative	2,949 (.131)
Belgian	Male	Positive	2,594 (.142)
		Negative	2,703 (.168)
	Female	Positive	2,993 (.138)
		Negative	2,283 (.104)

## Happiness

In the perception test, happiness was scored as well, on a 6-point likert scale: 1 being completely disappointed and 6 being completely happy. The means of this happiness-score can be found in table 4.

Table 4: Means and standard deviation of dependent variables on expressivity.

		Mean (sd)
Nationality	Chinese	4,139 (.049)
	Belgian	3,650 (.067)
Gender	Male	3,933 (.062)
	Female	3,857 (.049)
Verdict	Positive	4,636 (.075)
	Negative	3,453 (.058)

The three independent variables (nationality, gender and verdict) were again analysed with a repeated measures anova. For nationality, the assumption of sphericity was violated ( $p < .001$ ), so using Greenhouse-Geisser correction, the mean scores turned out to be significantly different ( $F(1, 22) = 60,194, p < .0001$ ). This shows that there is a main effect of nationality on a candidate's happiness as well. The Chinese candidates are perceived significantly happier than the Belgian ones. For gender, there was no significant effect found. However, there was a significant effect for verdict. Candidates with a positive verdict were perceived happier than those with negative verdicts, with a violated sphericity of ( $p < .001$ ) and a Greenhouse-Geisser corrected score of ( $F(1, 22) = 123.662, p < .001$ ).

Two interaction effects were found as well. The score for nationality\*gender was ( $F(1, 22) = 36.435, p < .001$ ) and the means and standard deviation can be found in table 5.

Table 5. Means and standard deviation on happiness of nationality\*gender interaction

Nationality	Gender	Mean (sd)
Chinese	Male	4,018 (.062)
	Female	4,261 (.068)
Belgian	Male	3,848 (.085)
	Female	3,453 (.058)

These means show that the Chinese are generally perceived happier, with women slightly more than men. Male Belgian candidates are perceived happier than females.

The interaction on all three of the independent variables (nationality\*gender\*verdict) was significant as well ( $F(1, 22) = 88.667, p < .001$ ). The means show that the Chinese candidates score higher on happiness than Belgian in every condition, except for the male candidates with a negative verdict. The highest scoring were the Chinese men with a positive verdict, although Chinese women are a close second. Chinese women with a negative verdict look significantly happier than Belgian ones, who are by far the most disappointed looking group.

Table 6: Means on happiness of nationality\*gender\*verdict interaction

Nationality	Gender	Verdict	Mean (sd)
Chinese	Male	Positive	4,819 (.093)
		Negative	3,217 (.115)
	Female	Positive	4,710 (.120)
		Negative	3,812 (.116)
Belgian	Male	Positive	4,391 (.119)
		Negative	3,304 (.121)
	Female	Positive	4,623 (.081)
		Negative	2,283 (.104)

## Labelling

**Happy candidates** The happiest Belgian candidates show their emotions especially by means of facial expression: smiling (showing teeth) and nodding. They do not use big gestures. The happiest Chinese candidates, on the other hand, show their emotions by facial expressions and strong body movements. They smile with visible teeth and open their mouth to cheer. The men jump around, and move their arms up and down.

**Disappointed candidates** The most disappointed candidates in the Belgian condition show their emotions especially by facial expressions. They stare at the ground and their chin is drawn in towards their chest. Finally, you can see them pressing their lips. Conversely, the most disappointed candidates in the Chinese condition do not show strong body movements, but their expressions are more obvious. They stare at the ground, look away from the judges, and bite their lips. One of the candidates has drooping shoulders. The other candidate smiles and then shuts his eyes quickly.

**Overall Findings** We can argue that the expressions (facial and body movements) of Chinese candidates are stronger than Belgian candidates, both when they are happy and disappointed. However, when the candidates are disappointed, the differences between the Chinese and Belgian candidates are smaller. Additionally, we can argue that the candidates from both countries are more expressive after a positive verdict than after a negative verdict. Finally, in case of happiness, the emotion corresponds with the outcome of the contest: happy – positive verdict, disappointed – negative verdict.

## Discussion

The results showed by this research contradict the expectancies. Based on the uncertainty avoidance of Hofstede (1983), Belgian candidates were expected to show more non-verbal behavior than Chinese candidates. A possible explanation that this expectation was not fulfilled, could be found in another theory of Hofstede, namely the dimension of collectivism versus individualism. Individualism can be defined as a preference for a loosely-knit social framework. Collectivism on the other hand, represents a preference for a tightly-knit framework in society: “Individualism in cultures implies loose ties; everyone is expected to look after one’s self or immediate family but no one else. Collectivism implies that people are integrated from birth into strong, cohesive groups that protect them in exchange for unquestioning loyalty” (Marcus, 2000, p. 12). As shown by figure 2, China scores low on individualism and is therefore a collectivistic culture. Belgium on the other hand has a high score on individualism. It might be possible that Chinese candidates show more expressiveness and happiness because they feel like they made others proud and/or happy too. When the

verdict is negative Chinese candidates may feel they have failed even more. It is possible that Belgian candidates join the competition for their own satisfaction much more than Chinese candidates do. The pressure for Belgian candidates is possibly less high because they are only concerned with themselves.

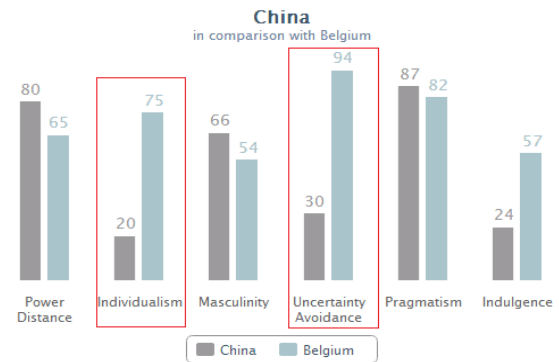


Figure 2: Comparison of Hofstede’s dimension between Belgium and China.

The results of our study contribute to the understanding of cultural differences in nonverbal communication. However, there are some limitations which should be taken in account in future research. First of all, the amount of participants is low due to time constrains. Secondly, other than just the candidates, the clips show the reaction of the judges, audience and relatives as well. This might have influenced our participants in their judgment. Thirdly, the reactions of the candidates might be influenced by previous editions of ‘The Voice of...’. The candidates ‘know’ how the public expects them to react. The final limitation is the fact that the candidates know they are being filmed. This might have influenced their reactions.

Future research could focus on countries with a high and low uncertainty avoidance other than Belgium and China, to investigate whether or not the results will be confirmed. Additionally, it would be interesting not to focus on adults only, but on children as well. Another interesting study could be to investigate a different type of TV program, for example a news report. In that case, one could compare the non-verbal communication for instances in which the reporter tells either good or bad news.

## Conclusion

This research on non-verbal communication was based on a perception-test and an analysis of video clips. Different clips from the popular television show ‘The Voice of ...’ were selected, namely from ‘The Voice of China’ and ‘The Voice of Belgium’. The main interest was to see whether the candidates of these two different cultures show different non-verbal behavior. From both China and Belgium clips were selected, equally divided on nationality, verdict and gender. A perception test was conducted among 24 Dutch

participants, who scored the non-verbal behavior (expressiveness and happiness) of the different candidates on a Likert-scale. Based on the uncertainty avoidance of Hofstede we expected the Belgian candidates to show more non-verbal behavior than Chinese candidates. Overall, the results did not meet the expectancies.

Major findings of this perception-test show that Chinese candidates score significantly higher both on expressiveness and happiness. Candidates of both of the nationalities show more expression and happiness when the verdict is positive. After the perception test the most extreme clips in terms of happiness and expressiveness were labeled based on the ECSI-model. The results correlate with the results of the perception test.

## References

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## Appendix 1: Instruction participants of perception study

### Instructie

U krijgt straks 48 korte fragmenten van 15 seconden te zien uit de bekende televisieshow ‘The Voice of...’. Het is belangrijk dat u **alleen op de kandidaat** let, en u uw oordeel alleen op zijn of haar reacties baseert. Schenk dus geen aandacht aan de juryleden en/of familieleden die in beeld komen.

Na afloop van elk fragment kleurt u voor twee vragen het bolletje in, dat het sterkst overeenkomt met uw mening bij het desbetreffende fragment. De vragen zijn voor ieder fragment hetzelfde en zijn als volgt:

**Expressief**                                                       **Ingetogen**  
Hierbij staat links voor heel expressief, rechts voor heel ingetogen.

**Teleurgesteld**                                                   **Blij**  
Hierbij staat links voor heel teleurgesteld, rechts voor heel blij.

Probeer niet te lang na te denken over uw antwoorden – het gaat om uw eerste ingeving.

Wij danken u zeer voor uw deelname aan dit onderzoek!

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