

Nonverbal Cues of Dominance

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Abstract

The aim of this study was to investigate the nonverbal expression of dominance by humans and whether there was a difference between neutral and dominant situations. To test this, the natural behavior of contestants of the TV show *Temptation Island* was analysed. The six nonverbal behavioral cues used in this research to measure dominance were direct eye contact, upright posture, postural expansion, folding arms, hand gestures and intrusive gestures. The results showed that people in dominant situations show more nonverbal cues of dominance than people in neutral situations. This was especially true for postural expansion, upright posture, and intrusive gestures. Furthermore, people in dominant situations showed more intense dominant cues than people in neutral situations, especially more intense direct eye contact and upright posture.

Keywords: nonverbal communication, dominance, visual cues, natural behavior.

Introduction

Within every culture, relationship and situation, dominant behavior occurs on a daily basis. Whether the people or even animals in question are equal to one another or not, everyone will eventually be confronted with situations that ask for them to show their dominance. In conversations when accusations or other types of criticism are expressed, multiple verbal cues can indicate dominance (e.g. swear words). However, verbal cues are not the only indicator of dominance. Nonverbal cues play a major role in distinguishing dominant behavior as well. It is often shown in natural conflicts, which we are able to see regularly in reality shows (Hawley, 1999). In conflicts, a lot of dominant behavior is displayed by both men and women. This study focuses on comparing the nonverbal behavior of a person in both dominant and neutral situations, in order to investigate the main nonverbal cues of dominance.

By investigating the differences between one person in a dominant situation versus a neutral situation, this study strives to answer the following research question:

RQ: What are the differences between the nonverbal behavior of people in dominant situations and people in neutral situations?

Nonverbal cues of dominance

Many studies have been conducted in order to determine and analyse nonverbal cues of dominant behavior. This nonverbal behavior can be recognized by both visual and verbal cues. Overall, more expressive communication is associated with a higher level of dominance. People show their dominance in nonverbal behavior through expressive communication in sound and speech, such as eye gazes, body position, certain types of postures, and facial expressions (Dunbar, 2016; Ridgeway, 1987; Schwartz, Tesser, & Powell, 1982; Burgoon, & Dunbar, 2006).

Nonverbal cues of dominance in speech concern the use of loud speech volume, a fast speech rate, clear articulation and a deep voice (Ridgeway, 1987; Burgoon & Dunbar, 2006). Other dominant cues regarding eye gazes concern threat stares, penetrating gazes or long and direct eye contact (Dunbar, 2016; Ridgeway, 1987). When showing dominance, a person's body movement becomes rapid and their position erect, firm, and direct (Schwartz, Tesser, & Powell, 1982; Tiedens & Fragale, 2003). A more expressive dominant nonverbal cue in posture is overall expansion. Dunbar (2016) argues that "adopting an expansive posture leads to perceptions that are normally observed in powerful individuals". For example, open leg postures are associated with a more gregarious or dominant appearance. Nonverbal cues of dominance in facial expressions are frowning faces with furrowed brows (Burgoon & Dunbar, 2006). In addition to these main nonverbal cues, more specific dominant behavior is the use of high hand gestures while talking or moving the hands away from the torso (Fu, op den Akker & Bruijnes, 2014). After listing the nonverbal cues of dominance, Burgoon and Dunbar (2006) conclude: "These behaviors connote a high degree of actual or potential energy expenditure". Based on this theory and the prior studies on dominant expressions, the following hypotheses are formulated:

H1: A person in a dominant situation shows more dominant nonverbal cues than a person in a neutral situation.

H2: A person in a dominant situation shows more intense dominant nonverbal cues than a person in a neutral situation.

Method

Pre-test

In order to examine whether the fragments selected for the main research on dominant behavior were indeed perceived as either dominant or neutral, a pre-test was deployed. The pre-test concerned a Qualtrics survey in which participants were asked to rate some of the potential stimuli on their perception of dominance in that fragment. The perceived level of dominance was measured with five statements, each to be answered with “agree” or “disagree”. The introduction to the survey and questions asked on each of the four fragments of the pretest can be found in Appendix I.

In total, 25 participants completed the questionnaire and rated statements for each of the four fragments. The fragments of the pre-test consisted of two situations showing two men, and two situations showing two females. Situations were categorized as dominant or neutral by the researchers prior to the questionnaire, but participants of the pre-tests were unaware of this.

For the dominant fragments, at least 92% of the participants confirmed that it concerned a conflict situation. For both of the neutral fragments, 96% of the participants thought there was no conflict. The item asking if participants thought that the people shown in the fragment were satisfied or not, showed that for the dominant situations at least 96% disagreed with the statement. However, for the neutral situations, only 10 out of 25 participants perceived the people in the first fragment as satisfied, and 17 out of 25 perceived the people in the second fragment as satisfied. This effect could be explained due to the subject of the conversation and context of the neutral situation. Statements concerning the tension in the situations showed that 96% agreed for the dominant situations, while the same percentage disagreed for the neutral fragments. 100% of the participants agreed on whether the people in the fragments were perceived as intimidating in the dominant situations. For both of the dominant fragments, 24 out of 25 participants confirmed that the people in those fragments were showing dominance. Thus, the pre-test confirms our indications for categorizing the fragments as either a

neutral or dominant situation.

Design

In this study, the independent variable was the type of situation, which was either dominant or neutral. Furthermore, the dependent variable concerns the nonverbal expressions of dominance (direct eye contact, upright posture, postural expansion, folding arms, hand gestures, and intrusive gestures). Figure 1 illustrates an example of upright posture,

Materials

The sample consisted of 64 situations (32 dominant, 32 neutral) in videos of all episodes of season 2 and 3 of the Dutch version of *Temptation Island*. All videos were collected on the website of Videoland, where full episodes of the show are available. *Temptation Island* is a reality show wherein four couples spend ten days apart from each other on a tropical island. It is the "ultimate relationship test", as there are seducers on the island as well.

Half of the selected clips showed two participants in the show in a dominant situation. There is a central point in the show where candidates meet the seducers of their partners. The videos for the dominant condition were selected from these scenes, based on the literature of Dahrendorf (1958), who described situations of conflict as situations in which people have contradictory interests. The selected videos show two people from the same sex (candidate versus seducer) communicating and having clear contradictory and conflicting interests, since the seducer tries to win over the candidate's partner. As this moment in the show is a repeated scene over the seasons and shows the behavior of multiple people, it is well comparable and therefore suitable for analysis.

The other half of the selected clips showed the same persons in a neutral situation. In the neutral situation, the candidates are having a conversation with other candidates and the seducers are talking to other seducers from the same sex. These moments show two people as well, however, in this case, there are no conflicting interests perceived in their conversations.

In order to select the situations and to make the videos suitable for research, the previously selected episodes needed to be edited using Adobe Premiere Pro. The duration of the video fragments varied, as some conversations lasted longer than

others. However, all videos had a duration between 20 and 35 seconds.



Figure 1. Example of upright posture in a dominant situation

Coding

Based on the studies mentioned in the introduction, a codebook was compiled to analyse the videos. This ensured that coding was executed equally by all coders. It consisted of general information (fragment number, season, name of the person being analysed, dominance/non-dominance, and gender), the nonverbal cues (direct eye contact, upright posture, postural expansion, folding arms, hand gesturing, and intrusive gesturing) and remaining comments, where striking behavior that was not present in the codebook could be discussed. All coded cues were based on literature, except for the folding arms cue. Folding arms was selected as it appeared to be striking in the videos. The cues were categorized in three columns, namely presence, frequency and intensity.

The presence of the nonverbal cues could be answered with yes (1) or no (0). The frequency had to be answered with the number of times a specific cue occurred. Finally, the intensity of a cue was measured on a scale from 1 to 5, where 1 being low intensity and 5 being high intensity. It was agreed upon that when a cue did not occur at all, the intensity would be rated as 1 and when a cue occurred throughout the whole video, the intensity would be rated as 5. For every cue, the time of occurrence was noted in a separate row.

The intercoder reliability was measured by having 20% of the sample double coded. After that, the scores of the coders were compared and the Cohen's Kappa score was calculated. The results indicated that the intercoder reliability per variable was sufficient for all variables, which meant that

those variables had Cohen's Kappa scores above .600. All scores can be found in Table 1 in Appendix II.

Procedure

Coding was done by two coders. Each coder coded half of the clips of the dominant condition and half of the clips of the neutral condition. After all clips were coded, the two coders started to code 20% of the sample twice. Coder 1 coded 10% of the already coded sample by coder 2 again (5% of the dominant condition and 5% of the neutral condition). Coder 2 did exactly the same for the data that was already coded by coder 1. The coding was done individually and in a quiet environment. Breaks were taken in between to improve concentration.

Results

To test the hypothesis that people in dominant situations show more nonverbal cues of dominance than people in neutral situations, an independent *t*-test was performed with 'type of situation' as independent variable and the mean of the number of cues per person of dominance as dependent variables. In total, 64 situations with 32 individuals who were present in both the dominant and neutral situation were analysed. On average, people in a dominant situation ($M = 3.09$, $SD = 1.01$) showed more dominant cues than people in a neutral situation ($M = 1.76$, $SD = 1.01$). The results of this analysis show that people in dominant situations significantly show more nonverbal cues of dominance than people in the neutral situations ($M_{dif} = -1.33$, $t(64) = -6.09$, $p < .001$). This mean difference represents a large-sized effect of $d = 1.32$. In conclusion, our first hypothesis was accepted, of which the effect is displayed in Figure 2.

Moreover, to test to what extent each cue was present in participants' behavior, separate chi-square tests were performed for each cue. In total, 32 individuals were analysed in both situations. In total, 64 situations were analysed. There were 16 men and 16 women in the sample. There was a significant association between the cues of postural expansion $\chi^2(1) = 08.25$, $p = .004$, upright posture $\chi^2(1) = 26.19$, $p < .001$, intrusive gestures $\chi^2(1) = 8.84$, $p = .003$ and type of situation. More specifically, 18.8% ($N = 6$) of the people in the dominant situation postural expanded, but only 9.4% ($N = 3$) of people in the neutral situation expanded. The odds of people in a dominant situation showing a postural expansion

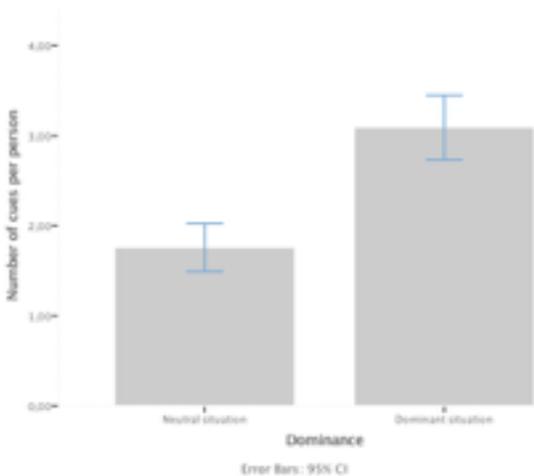


Figure 2. Significant effect of type of situation on the number of cues per person

were 0.15 times higher than those in a neutral situation. In the dominant situation, 31.3% ($N = 10$) showed intrusive gestures, but only 3.1% ($N = 1$) showed these gestures in the neutral situation. The odds of people in a dominant situation showing an intrusive gesture were 0.07 times higher than those in a neutral situation. Of the people in the dominant situation, 96.9% ($N = 31$) had an upright posture, but only 34.4% ($N = 11$) of the people in the neutral situation had an upright posture. The odds of people in a dominant situation showing upright posture were 0.03 times higher than those in a neutral situation. These results do support the hypothesis that people in dominant situations show more nonverbal cues of dominance than people in neutral situations.

In order to test whether a person in a dominant situation shows more intense dominant nonverbal cues than a person in a neutral situation, an independent t -test was performed. Intensity was measured on a 5-point scale (e.g., very low intensity, high intensity). The mean of the scale for intensity was 2.13 ($SD = 0.72$). The reliability of the scale was low, Cronbach's $\alpha = 0.44$. Therefore, not all of the items can be perceived similarly and the data should be interpreted cautiously. The dependent variable mean of intensity was not normally distributed (z -scoreskewness neutral situation = 2.69, z -scorekurtosis neutral situation = 2.37, z -scoreskewness dominant situation = 2.07). Therefore the p -value may not be reliable and more weight should be placed on the bootstrapped 95% confidence interval that will be provided. On average, people in a dominant situation ($M = 2.64$, $SD = 0.57$) showed more intense dominant cues than people in a neutral situation ($M = 1.62$, $SD = 0.43$). This difference was significant ($Mdif = -1.02$,

$t(64) = -8.21$, $p = .001$), BCa 95% CI [-1.28, -0.79]. The difference represents a large-sized effect $d = 2.02$, and is displayed in Figure 3.

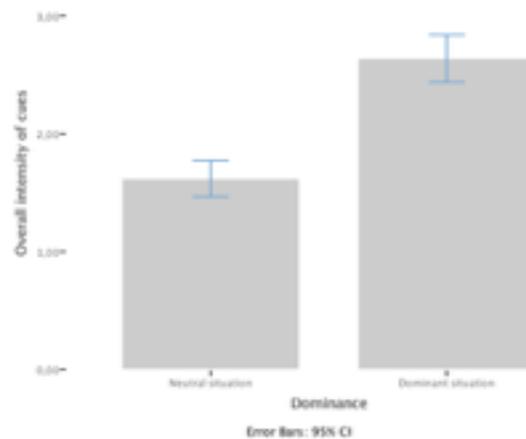


Figure 3. Significant effect of type of situation on the overall intensity of the cues

Finally, to test what specific nonverbal cues were more intensely present, multiple independent t -tests were performed. On average, people in a dominant situation had more intense direct eye contact ($M = 4.09$, $SD = 1.04$) than people in a neutral situation ($M = 2.60$, $SD = 1.41$). This difference was significant ($Mdif = -1.49$, $t(64) = -4.86$, $p < .001$). The difference represents a large-sized effect, $d = 1.20$. Additionally, people in a dominant situation ($M = 4.64$, $SD = 1.08$) had a more intense upright posture than people in a neutral situation ($M = 1.88$, $SD = 1.69$). This difference was significant ($Mdif = -3.35$, $t(54.51) = -7.86$, $p = .001$), BCa 95% CI [-3.35, -2.04], and represents a large-sized effect $d = 1.95$.

Discussion

The aim of this study was to investigate how people express dominance with their nonverbal behavior. The following cues were investigated: direct eye contact, upright posture, postural expansion, folding arms, hand gesturing and intrusive gesturing. When all cues were taken together, results indicated that people in the dominant condition used more of those cues than people in the neutral condition. This result supports hypothesis 1. In response to this main finding, further analysis was conducted by investigating every single cue separately. These results indicated that people in a dominant situation showed more upright posture, postural expansion,

and intrusive gestures than people in the neutral situation. However, this appeared not to be the case for direct eye contact, folding arms, and hand gestures.

The results regarding the intensity of the cues revealed that there was a difference between the conditions when all cues were taken together. Therefore, hypothesis 2 is supported. When zooming in on the cues separately, it appeared that direct eye contact and upright posture were significantly more intense in the dominant situation than in the neutral situation.

Some of the cues shown by people in a dominant situation were significant where others were not. This might be explained by the fact that cues as upright posture and postural expansion are directly related to dominance, power and status (Dunbar, 2016). A cue such as hand gestures for example is according to literature also shown in dominant situations (Fu et al., 2014). However, hand gestures are also expressed in a lot of other situations, in combination with different emotions. The research of Krauss, Chen, and Chawlan (1996) showed that hand movements are overall conversational gestures.

As described in the method section, the cue folding arms was included in the coding scheme, because it appeared to be striking. However, unlike our expectations, folding arms was not a significant cue for dominant nonverbal behavior, as this nonverbal behavior was exclusively shown by men.

A limitation of this study is a possible selection bias, since the participants of the TV show are not random boys and girls next door. They were already pre-selected to participate in the reality tv-show based on their extrovert character, and might therefore express more dominant cues than an “average” person. Also, the videos were selected from a reality show, which might include some acting as participants are aware of the fact that their behavior is being filmed. It is possible that some persons exaggerated their behavior.

The current study focused on the differences in nonverbal cues of dominance in neutral and dominant situations. Further research should be done to investigate and control for gender differences in the expression of dominance. Some cues of dominance are naturally more common for men than for women. For example, men naturally tend to expand their posture more than women (Semnani-Azad & Adair, 2011). It is likely that there are differences in other cues as well.

Furthermore, future research could also look at other domains and situations in which people behave dominantly. For example in the world of sports, when a coach is communicating with an athlete or when a team captain is talking to the rest of the team.

Another aspect that could be further investigated, is the use of self adaptors. During the coding phase of this study, the cue of self adaptors appeared to be frequently visible in the dominant condition. For example, participants touched their hair, face or chest in dominant situations. To our knowledge, the use of self adaptors has never been associated with dominant nonverbal behavior before. Further research could also take this into account.

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Appendix I

Pretest

Introduction:

Beste deelnemer,

Voor het vak non-verbale communicatie van de opleiding Communicatie- en Informatiewetenschappen, Tilburg University, voeren wij een klein onderzoek uit. U bekijkt een paar korte filmpjes waar vervolgens een aantal stellingen op volgen.

Deelname aan dit onderzoek duurt een ongeveer 3 minuten. Uw gegevens worden vertrouwelijk behandeld. Alvast bedankt voor uw deelname!

Met vriendelijke groeten,

Jasmijn Verspaandonk, Jalou Lemmens,
Guusje Nagels, Nicole van den Reek en
Laura van Hooff

Questions per fragment:

- i. In dit fragment is sprake van een conflict
- ii. De mensen in dit fragment zijn tevreden
- iii. De situatie in dit fragment is gespannen
- iv. De mensen in dit fragment zijn intimiderend

- v. De mensen in dit fragment stralen dominantie uit

Each of these statements were answered with “ agree” or “ disagree”.

Appendix II

Intercoder reliability

Table 1

Cohen's Kappa: Intercoder variability per variable

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