A hidden link between gesture and emotion: A study of the judges of The Voice (Kids)

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Abstract

Following in Casasanto's (2010) footsteps, this research examines the link between gesture and emotion. It is said one's dominant side is linked to positivity, while one's non-dominant side is linked to negativity: this claim is studied using the judges of The Voice and The Voice Kids as subjects. The link between handedness, gesture and emotion was not significant, but there is a significant difference when considering who the judges judge. The non-dominant hand is used more when talking to adults, while the dominant hand or both hands are used more when talking to children, future research might enlighten these findings, as well as findings suggesting that gesture-behavior differs per individual.

Keywords: hand gesture; emotion; dominant vs. non-dominant; children; adults; non-verbal communication

Introduction

It is plausible to think that people with different motoric body functions, act in different ways (Willems, Hahoort & Casasanto, 2010). Theories such as the *embodied language* have already supported this intimate link between the use of language and the bodily experience (Hostetter & Alibali, 2008). Additionally, according to the *body-specificity hypothesis* (Casasanto, 2009), people who systematically communicate with their environment in a different way (e.g. gesturing with the right dominant hand versus gesturing with a left dominant hand) also correspondently form different mental representations. This hypothesis is supported by a study where handedness and the mental representation of abstract concepts with positive or negative valence were compared (Casasanto, 2009). The results showed that right-handers (people with a dominant right hand) associate positive ideas with their rightward space and negative ideas with their leftward space. The same was the case for left-handers, but then the exact opposite. Therefore, it can be concluded that people implicitly associate their dominant hand with positive things and their non-dominant hand with negative things.

A follow-up research of Casasanto (2010) focused on this specific aspect. The aim of this research was to investigate whether these implicit associations have visual consequences in spontaneous (non-experimental) situations. Therefore, speeches of politicians in presidential debates (e.g. Obama versus McCain) were analyzed. Results showed that these politicians clearly use their dominant hand to emphasize positive utterances and their non-dominant hand to emphasize negative utterances.

In our study we attempt to replicate and build on this research by Casasanto (2010) by analyzing jury comments on the TV shows *The Voice* and *The Voice Kids*. Following Casasanto's (2010) lead we expect that the judges, all right-handed, will use their dominant hand to mark positive comments and their non-dominant hand to mark negative comments. Even though the researchers took Casasanto's (2010) research as inspiration for their main research question, this particular research also offers possibilities to ask other questions regarding for example the difference in gestures used when talking to an adult versus when talking to a child. Moreover, the researchers expect that more hand gestures with both hands will be used when giving positive feedback.

Method

The question whether dominant hand use is linked to positive emotion is contested and looking for clear answers the researchers decided to focus on non-experimental real-life conditions; in this case the TV shows *The Voice* and *The Voice Kids*, both featuring the same four (right-handed) judges. The data was divided over the four researchers, who all coded the judges' reactions to (about) 25 participants of *The Voice* or *The Voice Kids* (resulting in 50 reactions to participants per condition and thus close to 200 comments per coach).

A coding scheme was developed in which the researchers wrote down the name of the participant, the participant's age, the reactions of all four judges (Marco, Angela, Simon and Nick), whether the judges pushed the button (to signal that they like the candidate), the amounts of hand gestures made during the comments given by the judges (left-handed gestures, right-handed, or both hands simultaneously) and the overall emotion of the comment made (negative, neutral or positive). It was decided that a hand gesture would be counted as any gesture during which a hand of a judge leaves the chair in which he or she sat. Moreover gestures of one particular judge were counted only when it was this particular judge's turn to speak (speech related gestures). The overall emotion of the comment seemed to be a more subjective affair and therefore the researchers decided to use triangulation to check the objectivity of the results. After finishing the coding of their part of the data all researchers re-coded about ten percent of one of

their colleagues data to make sure that the coding was done as unbiased as possible.

Concluding data checks and coding, statistical analysis of the data was performed using SPSS. A chi-square test was performed to examine the relation between comments and hand gestures. The right-, left- or both handed gestures were for the chi-square test only counted as present or absent. Due to a lack of significant results the researchers decided to also perform a univariate ANOVA including the amount of hand gestures made, as one can read in the results section below.

Results

The results indicate that there was a significant association between comments and whether or not the coaches pushed the button to turn their chair around. $\chi^2 = 50{,}23$, $p < .001$. The coaches pushed the button when they liked the voice they heard; it seems obvious, but is worth mentioning, that when the button was pushed the comments were more positive than when the judges did not push the button. It could have been the case that the coaches would still be positive when they did not turn around. Overall, this was not the case.

The relation between hand gestures and whether or not the coaches pushed the button to turn around was not significant, as the following data indicates: the association between whether or not the coaches turned around and left-handed gestures was not significant ($\chi^2 = 8.855$, $p = .003$), the relation between whether or not the coaches turned around and used right-handed gestures was not significant either ($\chi^2 = 7.296$, $p = .007$), as was the association between whether or not the coaches turned around and both-handed gestures ($\chi^2 = 6{,}524$, $p = .011$).

For left-handed gestures, there is an effect of contestant: $F(1, 262) = 5.01$, $p = .026$. The coaches use more left-handed gestures when they are talking to adults ($M = 1.13$, $SD = 1.67$) than when talking to children ($M = .67$, $SD = 1{,}18$). The variance explained, however, is small: $\eta^2 = .019$. A chi-square test was performed to examine the relation between comments and hand gestures. There was no significant association between comment (positive, negative or neutral) and left-handed gestures: $\chi^2 = 2.847$, $p = .241$. This is also indicated by the ANOVA test: $F(2, 262) < 1$. This means that coaches used equally as many left-handed gestures when giving negative feedback as when giving positive feedback. The relation between valance of the feedback and type of contestant is shown in the left graphic of figure 1.

The researchers did not find a difference in the amount of left-handed gestures depending on whether or not the coaches turned around and pushed the button (the candidate goes to the next round) or not (the candidate has to leave to program): $F(2, 260) < 1$. There was a difference between the coaches in the amount of gestures made: $F(3, 260) = 12.27$, $p < .001$. The amount of explained variance by the gestures of the coaches individually is $\eta^2 = .12$. This shows that Marco gestures most with his left hand ($M = 1.65$, $SD = 1.86$), followed by Angela ($M = 1.05$, $SD = 1.58$), Simon ($M = .51$, $SD = .85$) and finally Nick ($M = .21$, $SD = .52$). The relation between left-handed gestures and whether the coaches pushed, is shown in the right graphic of figure 1 (from left to right: Marco, Simon, Nick, Angela).

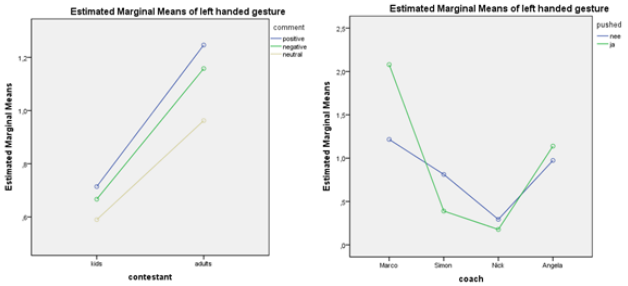

Figure 1 Amount of left-handed gestures per type of contestant and per coach

For right handed gestures, there is also an effect of contestant: $F(1, 262) = 10.03$, $p = .002$. The coaches use more right-handed gestures when they are talking to children ($M = 1.18$, $SD = 1.44$) than when talking to adults ($M = .50$, $SD = .89$). The explained variance is $\eta^2 = .037$. For the valence of the comment, there was no difference in the amount of right-handed gestures: $F(2, 262) = 1.71$, $p = .183$. An equal amount of right-handed gestures is made when giving positive, neutral or negative feedback. The relation between valance of the feedback and type of contestant is shown in the left graphic of figure 2.

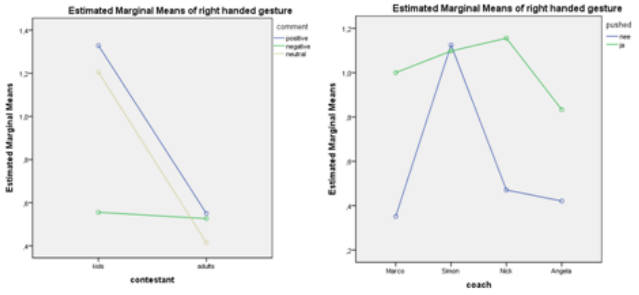

Figure 2 Amount of right-handed gestures per type of contestant and per coach

The authors did find a difference in right handed gestures between whether or not a coach had turned around: $F(1, 260) = 7.37$, $p = .007$. The amount of explained variance, however, is small: $\eta 2 = .028$. On average, the coaches use more right-handed gestures when they have pushed the button to turn around ($M = 1.03$, $SD = 1.36$), compared to when they did not push ($M = .51$, $SD = .94$). The means

show however that Simon gestures as much when he pushed the button as when he did not (M = 1.10, SD = 1.24 vs. M = 1.13, SD = 1.50). We did not find a difference between the coaches in the amount of right-handed gestures made: F (3, 260) = 1.75, p = .158. The relation between right-handed gestures and whether the coaches pushed, is shown in the right graphic of figure 2.

Coaches also gestured with both hands at the same time. The data indicate that there was an effect of contestant for gestures made with both hands simultaneously: F (1, 262) = 5.50, p = .020. The variance explained in this case is $\eta 2 = .020$. Coaches gesture more when they are talking to a child (M = 1.92, SD = 2.27) than when talking to an adult (M = 1.27, SD = 1.63). For the valence of the comment, there was no difference in the amount of gestures with both hands: F (2, 262) < 1, p = .934. The relation between valance of the feedback and type of contestant is shown in the left graphic of figure 3.

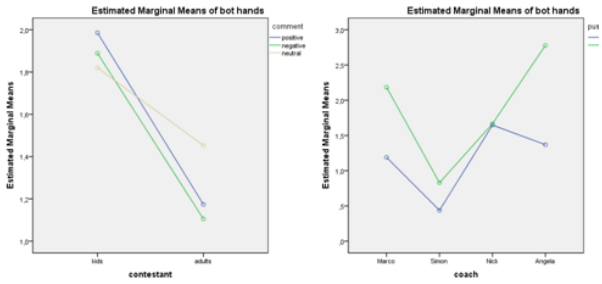

Figure 3 Amount of both-handed gestures per type of contestant and per coach

We did find a difference in gestures with both hands when taking into account whether or not a coach had turned around: F (1, 260) = 8.03, p = .005. The amount of explained variance is $\eta 2 = .030$. On average, the coaches use more gestures when they have pushed the button to turn around (M = 1.83, SD = 1.16), compared to when they did not push (M = 1.21, SD = 1.64). There also was a difference between the coaches in the amount of gestures made: F (3, 260) = 5.61, p = .001. The amount of explained variance is $\eta 2 = .061$. Angela gestured most with both hands (M = 2.05, SD = 2.28), followed by Marco (M = 1.69, SD = 2.10), Nick (M = 1.66, SD = 1.88) and finally Simon (M = .72, SD = 1.10). Nick and Simon gestured about the same amount when they pushed the button compared to when they did not. Both Marco and Angela gesture more when they pushed the button than when they did not. The relation between both-handed gestures and whether the coaches pushed is shown in the right graphic of figure 3.

Discussion

Although some significant results have been reported in the result section above, the researchers' aim to replicate Casasanto's (2010) research has clearly not succeeded (and one should be honest about one's failings!). Not only has this research failed to shine a light on Casasanto's (2010) interesting results in an attempt to clarify and strengthen his statements, but this research may also be considered a first step to reconsider or at least to consider the limitations of the already contested claim that one's dominant side is most often connected to positivity (and the other way around). Similarly to Casasanto's (2010) research the authors of this article have studied materials on film, featuring real people, in (close to) real-life situations. However, it should be noted that similar cannot be considered equal. In this research Dutch famous singers (judges in a TV series) were the object of study, while Casasanto (2010) used American politicians in debate. The subject matter of political debates is most likely more serious and more clearly negative or positive, than the subject matter discussed in *The Voice (Kids)*. However, one could still question the legitimacy of Casasanto's claims in this particular research in 2010, as (and if) they only apply in extremely positive or negative situations. Another difference between this particular research and Casasanto's (2010) research of the presidential debates features the difference between spontaneous gestures and practiced gestures, as most presidential debates feature practiced elements while we can expect the judges of *The Voice* and *The Voice Kids* to act rather spontaneously. Besides, Knapp, Hall, and Horgan (2014) write about speech-independent gestures and speech-related gestures, and it is important to mention that this research has only considered the latter, which could be considered a limitation of this research.

Nonetheless, this research did bring forth some significant results which are not only interesting, but might suggest new topics for future research. Firstly, the authors discussed that giving positive feedback is significantly related to pushing the button; indicating that *the game is fair* or at least that when pushing the button the judge is actually positive. Related to this is the second important result showing that when having pushed the button the coaches use more gestures in their commentary, Knapp, Hall, and Horgan (2014) explain that this is the case because "gestures are (…) likely to increase when a speaker is enthusiastic (…)" (p. 216). Thirdly, it was found that the judges use more left-handed gestures when talking to adults, while using more right-handed and both-handed gestures when talking to children. Fourthly, the judges gestured more overall when talking to children.

The third and fourth significant results above illustrate an interesting point and may form topics for future research. The researchers noticed

that comments made to children could often be qualified as either neutral or positive, and clearly not as negative as comments given to adults. Is then the amount of right-handed gestures a hidden implication that the judges are indeed more positive towards children than towards adults? Does the use of the left-hand when talking to adults signal some negativity which is not (or less) shown towards children? The data is not conclusive enough to make these judgments, but the researchers find the possible implications fascinating and do suggest further research on this topic.

Moreover, the clear differences between the amounts of gestures of the judges also offer possibilities for future research; what does it mean to be a person who gestures a lot and how do people perceive a person who talks completely without his/her hands? Does this part of non-verbal communication influence the ideas people form about a person; the image that one person attaches to another? Furthermore, it does not only differ how much the judges gestured, their gestures overall differed. Does it make a difference whether you gesture most with your left- or right- hand, or with both simultaneously? The judge Nick for example did move, but did not gesture a lot, he mostly moved his shoulders; Angela on the other hand was very expressive in her gesture-behavior. Future research could make use of a perception test, which might be able to illustrate how people perceive the way other people move and gesture.

Besides the very positive possibilities for further research the researchers do acknowledge that this particular research may have its limitations. A limitation of this study might be related to the fact that the researchers looked at the data of two specific shows: *The Voice Kids* and *The Voice of Holland*. It is the case, however, that in *The Voice of Holland*, some participants were only 16 or 17 years old. In fact, these people might still be perceived as children and may therefore be treated as children by the judges. This could have had an influence on the results, since in that case the data of *The Voice of Holland* would also include some 'children'. If indeed children are approached differently from adults, future research could split the data, for example in a group with children (under 19) and adults (19 and older). Or we could suggest future researchers to try and find out what adults perceive to be children (or in other words, until what age people are perceived to be children) with an perception test for example. Research considering whether age truly influences adults' behavior towards people would then be more objective. Other limitations one could mention are of course the small sample we have used (even though this sample was based on Casasanto's (2010) research). Moreover, this research has not focused on both left- and right- handed people, but was limited to only the right-handed.

Conclusion

The researchers have not been able to replicate, strengthen nor confirm Casasanto's (2010) results with this particular research. The judges of *The Voice* and *The Voice Kids* did not use their non-dominant hand more to gesture when giving negative comments and their dominant hand more when being positive. Moreover, the use of both hands when gesturing could not be significantly connected to giving positive or negative feedback. These results are similar for *The Voice* and *The Voice Kids*.

Significant results were mainly found when considering the difference between *The Voice* and *The Voice Kids*. When giving comments to children the judges tended to use their right hand or both their hands more than when talking to adults. Oppositely, the judges used their left hand more when talking to adults than when talking to children.

Although the expected results of this research were not found, the researchers emphasize that exactly unexpected results may lead to new insights and ideas; therefore this research may be a stepping-stone to develop future ideas and studies to clarify the link between gesture and emotion.

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