

# Looking healthy may win you elections

Robin Kramer & Dr Robert Ward

---

TOWARDS the end of 2008, Rob Ward (my supervisor), Isabel Arend (a post-doc in our lab) and I were discussing the upcoming US presidential election. Our thoughts revolved around movement, as we were in the process of receiving a new motion capture suite. My PhD is based on evolutionary psychology, specifically focusing on the signalling of information from our faces and how we walk. Therefore, it was not a huge leap of the imagination for us to begin wondering how political candidates move, and how this might affect our perceptions of them. If their movement changes our opinions then this could ultimately affect who we vote for. For full details of the experiments and results described below, see Kramer, Arend and Ward (2010).

A growing body of research (for a review, see Blake & Shiffrar, 2007) has demonstrated that we can accurately perceive information about a person from their motion alone. By creating videos where various locations (e.g. knees, elbows, wrists, etc.) are represented by dots but all other information is removed (known as *point-light walkers*, originally produced by Johansson, 1973), researchers have shown that we can tell a person's sex (Kozlowski & Cutting, 1977), age (Montepare & Zebrowitz-McArthur, 1988), identity (Cutting & Kozlowski, 1977), emotion (Dittrich, Troscianko, Lea, & Morgan, 1996) and mood (Michalak et al., 2009). Receivers of these signals are then able to use this information for their own benefit, for instance, adapting their behaviour to produce more positive interactions with the signaller.

Political scientists are well aware of the effects of motion on how people perceive politicians. For instance, Streeck (2008) demonstrated that hand gestures can facilitate the processing of speech. Gestures can

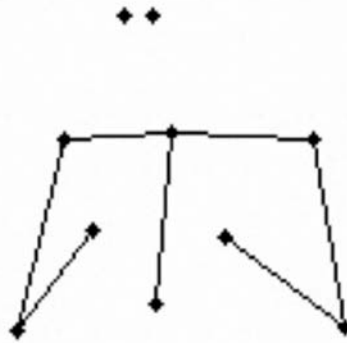
also have an effect on both audience perceptions and on the persuasiveness of the message conveyed (Maricchiolo et al., 2009). In addition, and importantly in election results, researchers have found that how we perceive a politician simply from a photograph of their face can influence and predict who we subsequently vote for (Little et al., 2007; Todorov et al., 2005). Furthermore, this effect can be found in children (Antonakis & Dalgas, 2009). The association of candidates' faces with perceptions of leadership, competence, and intelligence were the best predictors of voting outcomes (Todorov et al., 2005). Therefore, we decided to expand this research by investigating whether candidates' motion alone could affect perceptions of various physical and social traits which, in turn, might produce systematic preferences in voting.

## **Experiment 1: Barack Obama and John McCain**

After realising it was unlikely that presidential candidates would agree to travel to the UK so that we could cover them in markers and film them speaking, we decided instead to use YouTube videos to produce our motion stimuli. We found a video of the two candidates during their second presidential debate (7 October 2008), and from this, we took two seven-second clips. Both clips were filmed from the same angle and distance, and showed each man making similar movements, and shown from the waist upwards. These videos were then converted into stick-figure displays using custom Matlab software, where 10 landmarks were identified manually for each frame (see Figure 1).

Thirty-five (21 females) Bangor University volunteers took part in the ratings. Each person was told that the videos were of two men giving a public talk. Both videos played

Figure 1. A single frame from the Obama video.  
(Reprinted by permission of the publisher, Taylor & Francis Ltd.)



side-by-side on a computer screen, looping back and forth continuously, while participants rated each figure on physical and cognitive traits: attractiveness, trustworthiness, caring, dominance, leadership, anxiety, depression, physical health (from 1 to 6), and age (in years). Participants then indicated which figure they would vote for president. Other questions were then asked to assess their knowledge of politics, their recognition of the stimuli, etc.

All participants reported that they were unaware of the identities of the stimuli while carrying out the ratings. Results demonstrated that there was some overall agreement in terms of perceptions of the two candidates: the Obama figure was rated as more trustworthy and dominant, while the McCain figure was rated as more anxious. However, our main focus was on whether perceptions of social traits could be used to predict subsequent voting. Logistic regression analyses were used to investigate how each trait contributed to vote choice. Although most factors correlated with vote, analyses demonstrated that physical health was the single best predictor, and that the addition of a second factor produced no significant advantage. Figure 2 illustrates how the two groups of voters differed in their ratings of health for the two candidates.

Further analyses confirmed that participants were not voting simply based on how

they remembered rating the two videos, and that it was also unlikely that participants recognised the candidates from motion and then voted on that basis.

### Experiment 2: David Cameron and Gordon Brown

In order to replicate and generalise our findings, we used a different pair of politicians so that we could confirm that our results were not restricted to specific stimuli. This time, we found a video clip of David Cameron and Gordon Brown, taken from a House of Commons debate (28 November 2007). As before, we created stick figure videos using the same process, this time of nine seconds in length.

The procedure was identical to Experiment 1, this time with 38 (26 females) Bangor University undergraduate students who took part for course credits. After the ratings, participants were asked to vote for a prime minister rather than president.

Again, participants answered that they were unaware of the stick figure identities at the time of rating. Analyses demonstrated that the Brown figure was rated as more depressed and anxious, while the Cameron figure was rated as more attractive and younger. Again, logistic regression analyses revealed that physical health alone was the best predictor of vote choice, and that no second factor additions were significant.

Figure 2: Breakdown of health ratings for the two politician videos (McCain–Obama) as a function of vote choice. \*\* were significantly different at an uncorrected alpha level of .01; \*\*\* at .001. (Reprinted by permission of the publisher, Taylor & Francis Ltd.)

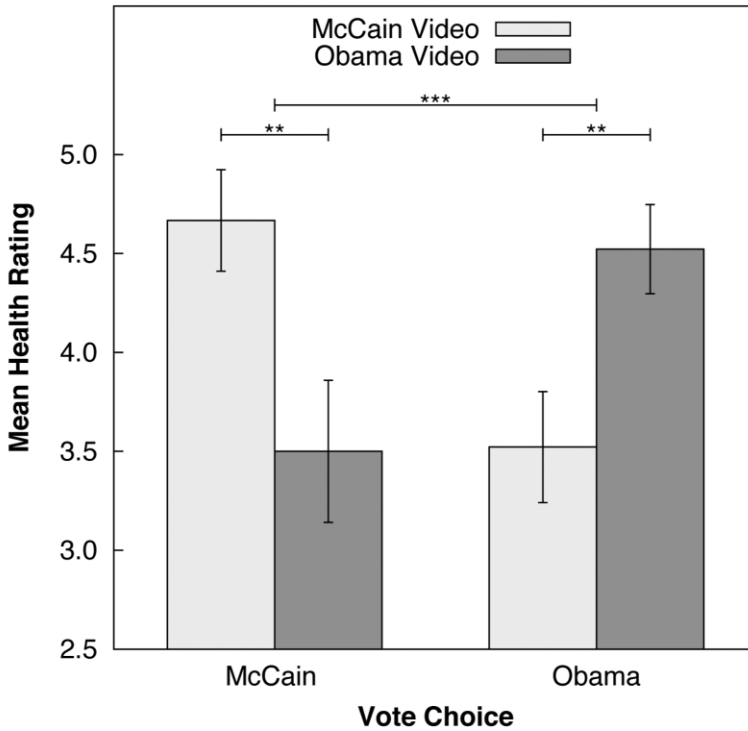


Figure 3 illustrates how voting and candidate health ratings related to each other.

As before, recognition of the candidates and memory of ratings were ruled out as likely explanations for these results.

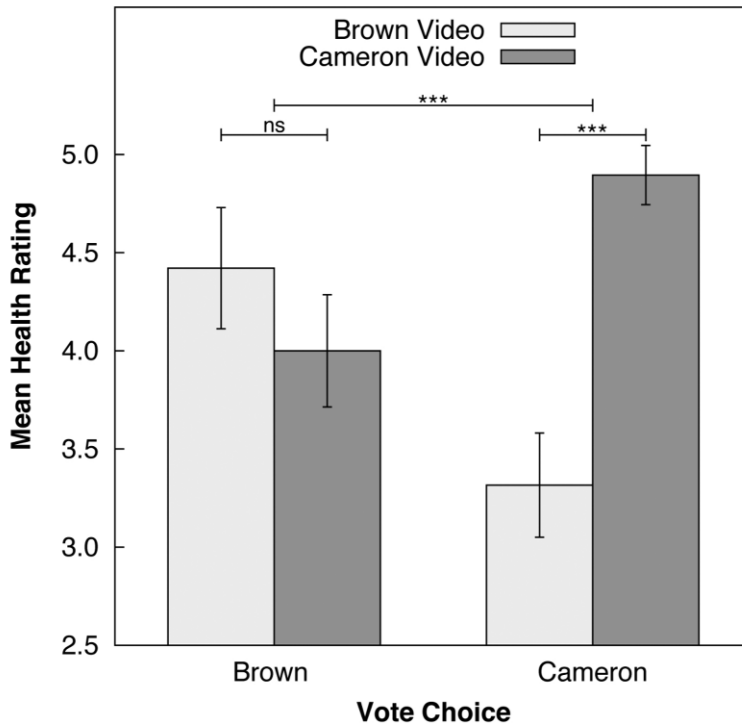
### General discussion

These results demonstrate that motion produced by political candidates can lead to systematic vote preferences. In particular, perceived health is a strong predictor of vote choice, more so than the other traits explored in the present research. The important issue to note here is that there are individual differences in these perceptions, which subsequently influence voting. As such, there was no general agreement as to which candidates appeared healthier, or indeed which should be elected. Results show that at an individual level, people's

perceptions of health predicted who they would vote for, even though there was disagreement between participants as to who appeared healthier. One explanation for the differences in perceptions of health may be that there are several signals of health from body motion but these are dissociated to some extent in our stimuli. Alternatively, it may be that individuals rate various aspects of motion as signals of health differently. In order to investigate how accurate these perceptions are, we would need to use actors of known health in future work.

While previous research has often used point light displays, we chose to show stick figures of our candidates. Primarily, this related to issues of clarity. Due to the poses and minimal movements of the politicians, it was sometimes hard to interpret the stimuli when points alone were visible. Although the

Figure 3: Breakdown of health ratings for the two politician videos (Brown-Cameron) as a function of vote choice. \*\*\* were significantly different at an uncorrected alpha level of .001. (Reprinted by permission of the publisher, Taylor & Francis Ltd.)



sticks provide no additional information about the men (given all they did was join together dots that were already visible), they do allow certain aspects of morphology to be more readily computed by viewers. However, surface and contour information was still absent, forcing raters to rely predominantly on motion, rather than appearance, information. The effect of morphology on ratings of health remains a question for future research. Due to how the stimuli were created, the movies viewed by participants contained unavoidable noise and jitter. However, this did not prevent people from obtaining and reporting information such that their ratings accurately modelled their voting. The low quality of the stimuli would certainly prevent viewers from accurately perceiving traits such as health from the motion, and we might expect that with

higher quality stimuli, the perception and influence of traits would be even stronger.

Interestingly, our findings demonstrating the importance of perceived health from motion differ with previous research involving static images of the face. Perceived competence, a combined factor incorporating competence, intelligence, and leadership, proved the most influential when voting from photographs (Antonakis & Dalgas, 2009; Todorov et al., 2005). However, in our research, leadership was not as predictive of vote as health, and provided no improvement to a model based on health alone. In addition, attractiveness was also less important than we might have expected, given previous research demonstrating how positive traits can be indiscriminately attributed to those judged as attractive (Dion, Berscheid & Walster, 1972).

So why might people be influenced so strongly by perceptions of health in particular? Clearly, health is relevant in a social context, allowing us to identify fit mates and powerful friends. Body motion, perhaps even more than appearance, may provide us with a useful indicator of health and therefore influence our judgments regarding people we meet. In relation to present day politics, coverage provided by the media allows us the opportunity to view the motion of candidates almost as easily as their static images. As such, the appearance of health from the movement of politicians is more relevant now than it ever has been.

## References

- Antonakis, J. & Dalgas, O. (2009). Predicting elections: Child's play! *Science*, 323, 1183.
- Blake, R. & Shiffrar, M. (2007). Perception of human motion. *Annual Review of Psychology*, 58, 47–73.
- Cutting, J.E. & Kozlowski, L.T. (1977). Recognising friends by their walk: Gait perception without familiarity cues. *Bulletin of the Psychonomic Society*, 9, 353–356.
- Dion, K.K., Berscheid, E. & Walster, E. (1972). What is beautiful is good. *Journal of Personality and Social Psychology*, 24, 285–290.
- Dittrich, W.H., Troscianko, T., Lea, S.E.G. & Morgan, D. (1996). Perception of emotion from dynamic point-light displays represented in dance. *Perception*, 25, 727–738.
- Johansson, G. (1973). Visual perception of biological motion and a model for its analysis. *Perception & Psychophysics*, 14, 195–204.
- Kozlowski, L.T. & Cutting, J.E. (1977). Recognising the sex of a walker from a dynamic point-light display. *Perception & Psychophysics*, 21, 575–580.
- Kramer, R.S.S., Arend, I. & Ward, R. (2010). Perceived health from biological motion predicts voting behaviour. *The Quarterly Journal of Experimental Psychology*, 63, 625–632.
- Little, A.C., Burriss, R.P., Jones, B.C. & Roberts, S.C. (2007). Facial appearance affects voting decisions. *Evolution and Human Behaviour*, 28, 18–27.
- Maricchiolo, F., Gnisci, A., Bonaiuto, M. & Ficca, G. (2009). Effects of difference types of hand gestures in persuasive speech on receivers' evaluations. *Language and Cognitive Processes*, 24, 239–266.
- Michalak, J., Troje, N., Fischer, J., Vollmar, P., Heidenreich, T. & Schulte, D. (2009). The embodiment of sadness and depression – gait patterns associated with dysphoric mood. *Psychosomatic Medicine*, 71, 580–587.
- Montepare, J.M. & Zebrowitz-McArthur, L. (1988). Impressions of people created by age-related qualities of their gaits. *Journal of Personality and Social Psychology*, 55, 547–556.
- Streeck, J. (2008). Gesture in political communication: A case study of the Democratic presidential candidates during the 2004 primary campaign. *Research on Language and Social Interaction*, 41, 154–186.
- Todorov, A., Mandisodza, A.N., Goren, A. & Hall, C.C. (2005). Inferences of competence from faces predict election outcomes. *Science*, 308, 1623–1626.

Given the general appeal of this subject matter, I have approached my university's press officer and we are currently working on a press release so that we might eventually reach a wider audience than just those who read scientific journals. This process is ongoing and I'm hopeful that we will be able to generate some interest for this work at about the same time as the upcoming General Election.

## Correspondence

**Robin Kramer**

Bangor University.

E-mail: psp837@bangor.ac.uk