

Judging political affiliation from faces of UK MPs

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Abstract. Subjects were shown photographs of UK MPs' faces and asked to judge their political affiliations. Participants were unable to correctly distinguish between Conservative and Labour politicians. However, their responses were used to create computer-generated idealised faces representative of each party, which independent evaluators could correctly identify. These faces give an indication of the mental images we might reference when imagining MPs from the two main UK political parties.

Our brain is capable of interpreting enormous amounts of information present in a person's face. Some characteristics are obvious, such as age, gender, and race, but there is also evidence that less obvious social information can be recovered, like sexual orientation (Rule et al 2009). The first part of this study examined whether political affiliation could be accurately judged when looking at the faces of UK Conservative and Labour MPs. Existing research on American politicians suggests that political allegiance is a personality trait that can be successfully inferred from faces (Rule and Ambady 2010). The second part focused on generating idealised average faces associated with both parties. Lastly, we investigated whether a Conservative–Labour axis exists within the popular theoretical framework of face space.

Subjects ($n =$ nineteen UCL students and staff, nine females) were shown 90 faces of UK MPs on a computer screen in random order and asked: "Please rate whether you think this face looks like a Labour or a Conservative politician on a scale of 1 to 6 with 1 = Definitely Labour and 6 = Definitely Conservative". We chose 45 back-bench MPs from each party to avoid simple identification. Images were downloaded from www.parliament.uk. Only white Caucasian males without beards or glasses were used. Faces were cropped with an oval mask to exclude hair, a potential personality indicator. Subjects were also asked to indicate their political stance on the same scale; they were predominantly Labour supporters ($n =$ three Conservative).

MPs rated on average greater than 3.5 were deemed Conservative and those lower were Labour. Subjects scored the Conservative MPs with a mean rating of 3.60 ($SD = 0.26$) and the Labour MPs with a mean rating of 3.52 ($SD = 0.22$). MPs from both parties were on average rated Conservative. To test whether political affiliation could be deduced correctly on the basis of facial images, a two-tailed paired t -test was performed on the nineteen subjects' mean ratings for each party: participants were unable to correctly judge political affiliation ($t_{18} = 1.12$, $p = 0.28$).

Mean faces were generated for each party using an in-house morph vectorisation technique and principal components analysis as described in Berisha et al (2010). Each MP image was reduced to 60 principal component coefficients. The mean faces in figure 1 were created by averaging these loadings across the 45 MPs in each party. The Conservative and Labour means look very similar, reflecting the subjects' difficulties in correctly judging political allegiance. Our experimental results are at variance with similar research

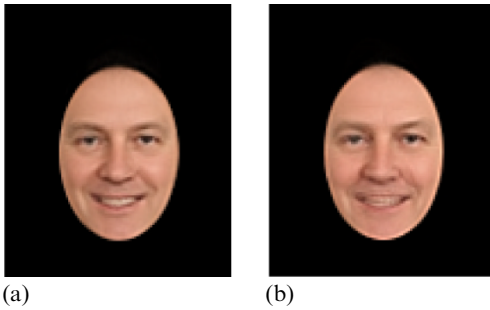


Figure 1. Mean avatars based on MPs' actual affiliation: (a) Conservative, (b) Labour.

based on US politicians (Rule and Ambady 2010). It is difficult to say why, but differences in experimental procedures include a smaller sample size and image set in our data, unique sets of politicians, and different image cropping boundaries.

In light of the subjects' inability to correctly distinguish political affiliation, we re-examined the MPs' faces based on their mean ratings rather than their true affiliations, that is, how they were perceived to look. The MPs were separated into four quartiles comprising Average Labour and Conservative MPs (those rated closest to 3.5) and Hyper Labour and Conservative MPs (those rated most Labour or Conservative). The group of faces was first split based on whether MPs scored on average more or less than 3.5. Both sets were then split based on their median values. The principal component coefficients of the faces in each quartile were averaged to produce four new avatars, pictured in figure 2.

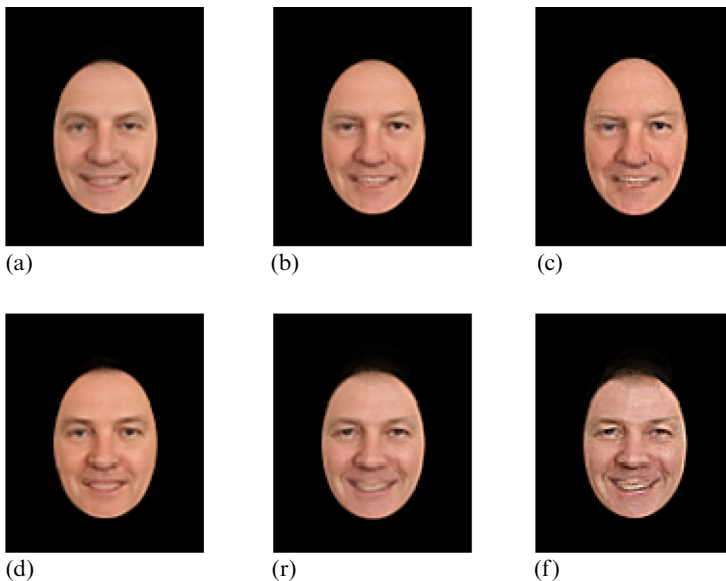


Figure 2. Mean avatars based on subjects' perceptions. (a) Conservative average, (b) Hyper Conservative, (c) 200% caricatured Hyper Conservative, (d) Labour average, (e) Hyper Labour, (f) 200% caricatured Hyper Labour.

These new Hyper versions bear striking differences. Mathematically caricaturing the Hyper avatars in face space accentuates their distinguishing features even further. The most noticeable difference is in the mouth region: the Hyper Labour MP has a broader smile with strong dimples. Both MPs show their teeth, but the Hyper Conservative has a less pronounced smile. The Hyper Labour MP also has a rounder, softer face, the bridge of his nose is shorter and the region under his eyebrows is lighter.

To confirm that the assignments of the political affiliations of these idealised faces were not specific to the original evaluators, a group of independent evaluators ($n = 67$ people at Euston station) were shown the 200% Hyper Conservative and Labour faces and asked: “Which of these two faces is a Conservative politician?” They were also informed one was a Labour face. Subjects identified the caricatured Conservative significantly better than chance ($n = 45$ correct, $p = 0.003$).

In norm-based face space models (Valentine 1991), faces are represented as vectors. By reversing the direction of this vector, and projecting through the mean, an opposite image known as an anti-face can be produced. The anti-face and the normal face form two opposing points on a shared axis. For instance, the axis might represent nose length with the regular face having a long nose and the anti-face having a short one. We can think of no a priori reason for the anti-face of the ideal Labour face to look Conservative, but if this was the case, it would indicate participants had adopted an axis through the mean in face space along which to categorise the MPs’ faces. To test this, anti-faces were produced for the Hyper MPs (figure 3). These both bore a close resemblance to the Hyper faces of the opposing party indicating a perceived Conservative–Labour axis within face space.

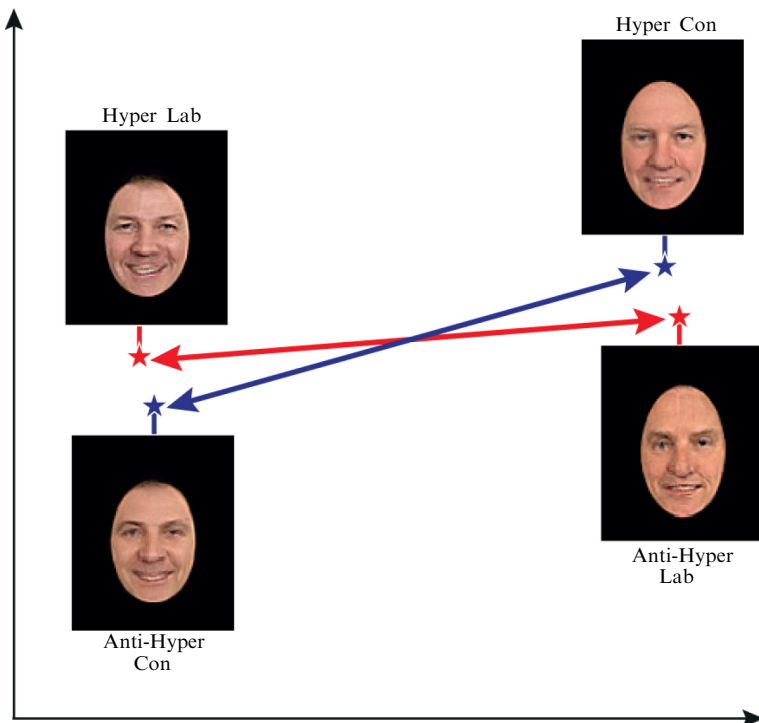


Figure 3. Avatars in face space. The anti-Hyper faces closely resemble the opposition’s Hyper face.

These idealised faces are based entirely on our perceptions. They provide an intriguing insight into the mental representations we store for Conservative and Labour party MPs. The Hyper MPs are borne out of the stereotypes we associate with each party. But, if we process politicians’ faces with reference to some political allegiance axis, is it constructed solely from experience with faces and environmental factors such as judgments of norms based on socioeconomic status, or does facial shape reflect genetic markers linked to a left–right political stance? Some recent research suggests that links between our biological makeup and political allegiance are not as far-fetched as the concept sounds. Oxley et al (2008) established that political attitudes vary with physiological traits: participants with

more conservative views had a stronger reaction to threatening stimuli. Kanai et al (2011) found that specific regions of the brain vary in size depending on your political stance.

However, whatever the determinants of facial shape, it is clear that we can visualise observers' stereotypes with this technique, and that the method can be readily extended to characterise facial features we expect to be associated with various individual dispositions and attitudes.

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