Gender and attractiveness from biological motion

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Biological motion contains plenty of visual information about several attributes of biological and psychological significance. In particularly, we can accurately determine the sex of a walker from the way he or she moves. Furthermore, motion patterns can vary to a large extent in perceived sexual attractiveness. In this study, we investigate the relation between perceived attractiveness and gender using dynamic point-light displays from 40 male and 40 female walkers. Using a linear, morphable stimulus space, we determined discriminant functions based on attractiveness ratings of 12 male and 12 female participants. In a first block observers were shown with displays of the other sex and asked to rate the walkers in terms of their sexual attractiveness. In the second block they were presented with walkers of their own sex and asked to rate the assumed attractiveness on the other sex. The resulting discriminant functions are visualized in terms of caricatured walking displays and compared with the linear discriminant function that best classifies the sex of a walker. The results show that female attractiveness as rated by male observers highly correlates with gender -- i.e. with the projection of a walker onto the linear sex classifier. In contrast, female attractiveness as rated by female observers is virtually independent of gender and rather appears to display a vivacious, energetic character. Male attractiveness as rated by male and female observers shows a similar tendency. Whereas male observers assume themselves to be rated attractive by females when displaying masculinity, the discriminant function based on the ratings of female observers is in fact almost perpendicular to the gender discriminant function. For an online demonstration, see http://www.biomotionlab.de/Demos/attractivity.html.