Does Sensitivity to Weight Changes of Others Depend on Personal Body Size?

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Previous research has suggested that own body size estimates are biased towards an average reference body (Cornelissen, Bester, Cairns, Tovée & Cornelissen, 2015). The role of personal body size in body size perception of others is still unclear. In two sets of psychophysical experiments, we tested healthy females varying in body mass index (BMI) to investigate whether personal body size influenced accuracy of body size estimates and sensitivity to weight changes of others. For the first set of psychophysical experiments, we generated four biometric female avatars with BMIs of 15, 25, 35, and 45 and altered the weight of the avatars (± 5, ±10, ±15, and ±20% BMI change) based on a statistical body model. The stimuli were presented on a stereoscopic, large-screen immersive display. For each avatar series, participants memorized what the original body looked like and then responded for each of the presented bodies whether it was the same as the one memorized. Our results show that there was no influence of personal BMI on the accuracy of body size estimates of the avatars. Interestingly however, participants were more sensitive to weight changes of an avatar close in BMI to their own. To further investigate this effect, in a second set of experiments we presented female participants varying in BMI with two bodies simultaneously and asked them to judge which of the two bodies was fatter. Again, sensitivity to differences in body weight was highest for bodies close to own BMI.

References