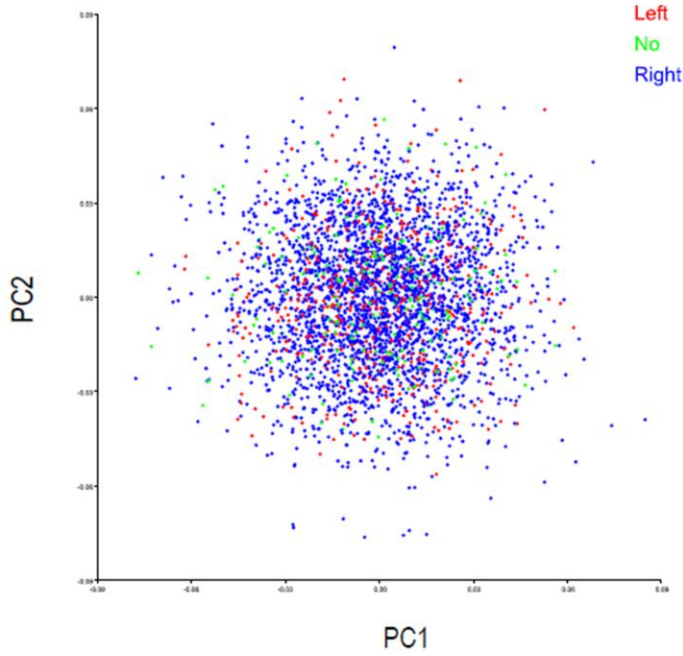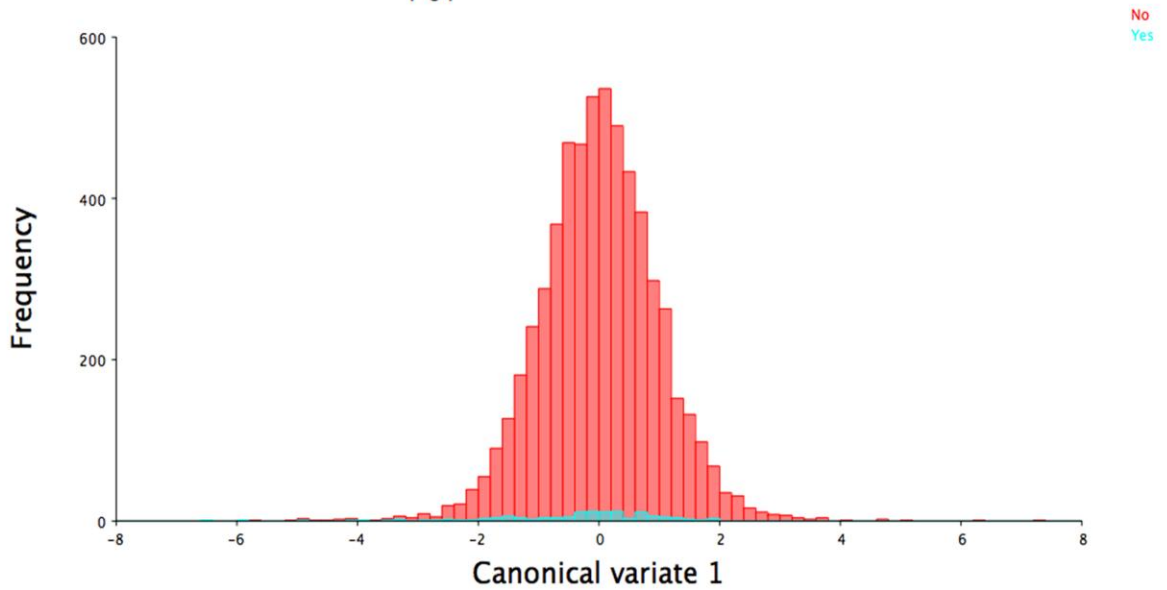**Figure S1. Superficial artifact correction and validation.** Superficial artifacts, such as lateral nasal deformity, were corrected in the automated landmark data using a multiple linear model in which all factors and their interactions were considered. **(A)** Canonical variates analysis for the "lateral nasal deformity" correction after applying the correction for artifacts demonstrates that these artifacts do not influence shape after correction. Left, right, and no deformity refer to different artifacts in the nose image. The shape effects of these artifacts are shown in Figure S2. **(B)** Discriminant function scores for those smiling (yes) and not smiling (no) after correction.