Supplementary Background

The sample from Southfield Jamaica West Indies was selected in 1996 for a long-term study of fluctuating asymmetry and behaviour. The participants are from 11 separate communities over a 20-square mile area and initially attended 3 primary schools. They now attend 9 different secondary schools or no school at all. Many of the subjects in the sample do not know each other. Known genetic relatedness is low in the sample (i.e., less than 5 percent) with paternal relatedness incompletely ascertained. In a direct test in which a sample of 20 contained either a half-brother or cousin no relatives ($n = 6$) could recognize one another. Furthermore none of the subjects could recognize any other individual's motion capture video. Inclusion or exclusion of known kin has no effect on the results. Since paternal relatedness is impossible to know we did not exclude any subjects from the primary analysis.

FA's are within the range of other samples in Western populations. Mean FA in 1996 and 2002 for the 10 symmetrical female dancers was 0.11 ± 0.02 and 0.11 ± 0.02, while mean FA in 1996 and 2002 for the 10 male symmetrical dancers was 0.10 ± 0.02 and 0.10 ± 0.03. Mean FA 1996 and 2002 for asymmetrical female dancers was 0.25 ± 0.02 and 0.30 ± 0.03, while asymmetrical male dancers had a mean FA of 0.26 ± 0.03 and 0.31 ± 0.03. No subject displayed any major injuries or reported broken bones. Possibly due to the age of the sample all participants are in good health (self-reported).

Supplementary Analyses

1. Do individual differences in sex identification influence dance evaluations due possibly to gender stereotypes or some other culture-mediated bias?

A 2 (Sex of Dancer) x 2 (Symmetry of Dancer) x 2 (Correct Sex Detection) split-plot ANCOVA was used to test whether or not the effects of symmetry are independent of correct identification of sex of dancer. The inclusion of the 2-level within-subjects variable called "Correct Sex Detection" (i.e., evaluators who incorrectly identified versus those who correctly identified sex of dancer) did not influence dance evaluations in this analysis: $F_{1, 34} = 0.035$, $P = 0.853$. Furthermore, correct versus incorrect evaluations does not interact with symmetry of dancer, BMI, age or actual sex of the dancer to influence evaluations in this model (all F's$_{1, 34} < 2.62$, all P's > 0.12). These findings show that correct or incorrect identity detections (in particular sex of dancer) do not bias evaluations of dance ability.

2. If symmetrical dancers are more facially attractive are they better dancers because they are more confident about themselves?

Facial attractiveness based on photographic stimuli was assessed on a 5-point scale by Jamaican peers ($N = 172$), Jamaican adults ($N = 52$), and a sample of Rutgers University students ($N = 137$) and were averaged for analysis due to high internal consistency (Cronbach's alpha = 0.81).

The covariate facial attractiveness of the dancer was not a predictor of dance ability ($F_{1, 33} = 0.06$, $P = 0.81$) suggesting that individual differences in facial attractiveness are not responsible for the relationship between symmetry and dance ability in the current sample.

3. If symmetry is confounded by self-esteem are those with higher self-esteem better dancers than those with lower self-esteem?

Self-esteem of dancers was measured using Rosenberg's questionnaire in 1999 and 2005 (the correlation between the two measures over the 6-year period was 0.61, $P < 0.001$). We averaged the two self-report measures for a composite measure of individual differences in self-esteem for inclusion as a covariate. The covariate self-esteem of the dancer was not a predictor of dance ability ($F_{1, 33} = 0.24$, $P = 0.63$) showing that the relationship between symmetry and dance ability is independent of individual differences in self-esteem.