



Jan 28, 2013 00:00 GMT

## Male dancers signal their strength to men and women

Heterosexual men pick up clues about other men's physical qualities from their dance moves just as heterosexual women do, say researchers at Northumbria University.

A study, led by psychologist Dr Nick Neave and researcher Kristofor McCarty, used 3D motion-capture technology and biomechanical analyses to examine the extent to which male dancing provides clues about the dancer's physical strength and fitness to both male and female observers.

The findings, published in the American Journal of Human Biology, suggest that male observers pick up on the strength of their potential rivals for female mates.

Researchers at Northumbria University filmed 30 males, aged 19-37, as they danced to a basic drum rhythm. Participants also completed a fitness test and assessments of upper and lower body strength. The dance clips were converted into virtual humanoid characters (avatars) and rated by women and men on perceived dance and physical qualities. The ratings were then correlated with various biomechanical indices.

The results showed that both sexes found significant positive associations between an individual's hand grip strength and their perceived dance quality, these qualities were picked up by the size and vigour of the movements of the upper body and arms.

Although it is traditionally thought that signals given off by men when they dance have been designed – like animal mating displays – to be interpreted as clues of their physical attributes to the opposite sex, it seems that heterosexual men are also making use of these signals, presumably to detect a potential love rival.

Dr Nick Neave believes that this increased sensitivity to male qualities by other heterosexual men may be due to intrasexual rivalry – men sizing up the strength and virility of their competition.

He said: "Rated dance quality was positively associated with actual grip strength and these clues of upper-body strength were most accurately picked up by male observers. This ability to discern upper-body strength is principally because men are looking for cues of 'formidability' in other males.

"Upper-body strength is highly related to fighting ability as it reflects the ability to do damage, especially in intra-sexual conflicts. The ability to gauge strength before potential conflicts is sensible, especially to other males."

Also part of the research team were Northumbria University academics Dr Nick Caplan and Johannes Hönekopp, with Bernard Fink, from the Institute of Zoology and Anthropology, University of Göttingen, Germany.

The study, Male body movements as possible cues to physical strength: a biomechanical analysis, is published online in this month's American Journal of Human Biology.

## Video Examples

[Strong Dancer](#)

[Weaker Dancer](#)

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## Contacts



### **Rik Kendall**

Press Contact  
PR and Media Manager  
Business and Law  
[rik.kendall@northumbria.ac.uk](mailto:rik.kendall@northumbria.ac.uk)  
07923 382339



### **Andrea Slowey**

Press Contact  
PR and Media Manager  
Engineering and Environment / Health and Life Sciences  
[andrea.slowey@northumbria.ac.uk](mailto:andrea.slowey@northumbria.ac.uk)  
07708 509436



**James Fox**

Press Contact  
Student Communications Manager  
james2.fox@northumbria.ac.uk



**Rachael Barwick**

Press Contact  
PR and Media Coordinator  
Health and Life Sciences / Sport  
rachael.barwick@northumbria.ac.uk  
07377422415



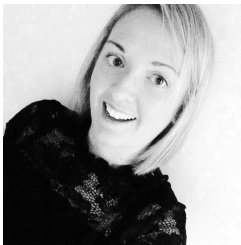
**Ruth Lognonne**

Press Contact  
PR and Media Coordinator  
Health and Life Sciences / Sport  
ruth.lognonne@northumbria.ac.uk  
07971274253



**Emily Morris**

Press Contact  
Corporate Communications Coordinator  
emily.l.morris@northumbria.ac.uk



**Gemma Brown**

Press Contact  
PR and Media Coordinator  
Arts Design and Social Sciences / Engineering and Environment  
gemma6.brown@northumbria.ac.uk