

# Do cultural differences determine outcome of our activities?

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A generally held assumption in various academic disciplines is that the way people perform various everyday activities – walking, swimming, carrying loads, etc. – is culturally determined. But, the question remains: do these cultural characteristics, when they affect various motor skills, also determine the results of people's efforts?

A study involving an original collaboration between archaeology, ethnology and human movement sciences indicates that different cultural approaches to various tasks do not necessarily produce different results.

These findings, for example, represent a cautionary tale for archaeologists, demonstrating that the cultural identity of a social group cannot be reduced to the shape of a ceramic artefact. Therefore, the morphological (shape) analysis of ancient ceramics needs to be complemented with other analyses for material content and markings.

The study conducted by researchers from the Hebrew University of Jerusalem and from France and Australia has been published in the American journal *PLoS One*. The researchers were Dr. Leore Grosman and Dr. Enore Gandon of the Computerized Archaeology Laboratory at the Institute of Archaeology, the Hebrew University of Jerusalem; Dr. Reinoud J. Bootsma of the Institute of Movement Sciences of the University of Aix-Marseille, France; and Dr. John A. Endler of the Center for Integrative Ecology, Deakin University, Australia.

In their collaborative work, the researchers focused on pottery wheel-

throwing in French and Indian cultural settings. Field experiments were set up with expert potters in workshops in central France (Bourgogne) and north India (Uttar Pradesh). All participants (nine French and six Indian) were invited to reproduce a common model shape (a sphere) with two different masses of clay.

The differing hand positions and movements used by the potters when shaping the pots were identified and recorded. In addition, the vessels produced were geometrically characterized as to their degree of similarity. As expected, results revealed a cultural influence on the operational aspects of the potters' motor skill. From the total of 62 different hand positions identified, 44% were culture-specific (only French or Indian) and only 27% were shared across cultures. Twenty-nine percent were individual.

In other words, most of the hand positions were cultural and the rest were either cross-cultural or individual. Yet, the large cultural differences in hand positions used did not give rise to noticeable differences in the shapes of the vessels produced. Hence, for the simple, spherical model selected, the culturally-specific motor traditions of the French and Indian potters gave rise to an equivalent outcome that was largely unified in shape.

In undertaking their novel approach, the researchers are convinced that they have opened up an innovative way to assess the cultural aspect of human [motor skills](#), introducing in the process a cautionary note in addressing the characterization of these skills.

Provided by Hebrew University of Jerusalem

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