

WALKERS MAY USE STEP Synchronisation As Non-Verbal Communication: Study

PRESS TRUST OF INDIA

Walkers may use step synchronisation as a form of non-verbal social communication, according to a study which suggests that the activity may reveal the psychological effects of movement interaction between humans. The study, published in the journal PLOS ONE, demonstrated how people's traits and the first impression affect their synchronous walking as a way of nonverbal communication.

In the study, the researchers, including those from Tohoku University in Japan, divided participants into 10 single-gender groups -- five female and five male. They said group members took turns being paired up with other members, and they walked together along a quiet, barrier-free path wearing voice recorders and motion sensors which recorded their walking movements. The scientists carried out the experiment under three conditions.

In one, they took a half silent walk half conversation condition where the participants did not speak for half of the journey, yet conversed on the way back, the researchers said.

In the other, the participants took a silent walk where they did not converse for the entirety of the journey, and lastly, a non-walking condition where participants did not walk, and sat quietly filling in a questionnaire in a classroom, the study reported.

According to the researchers, the participants had no prior knowledge of each other, and were asked to rate their impression of their partners before and after each walk using the interpersonal judgment scale (IJS). They also misled the participants about the true nature of the study to

prevent them from intentionally synchronising their steps.

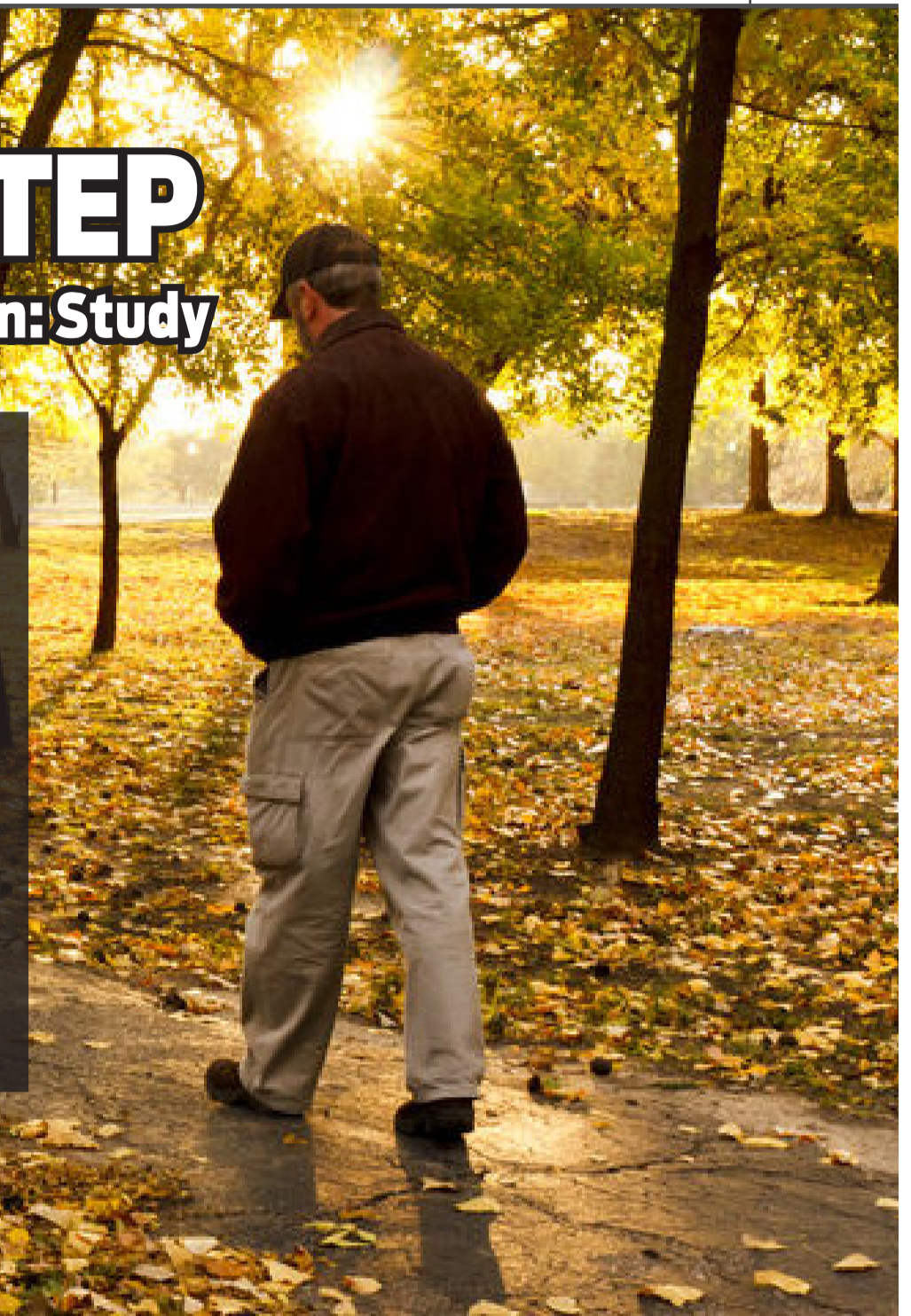
According to the study, there was an increase in the impression ratings for the two groups of participants who walked together, but not for the group of participants who simply spent time together, suggesting that walking side-by-side, even without verbal communication may be sufficient to alter the social relation between two strangers.

The scientists said conversations further enhanced impressions for participants who were allowed to talk. They said the current study dissociated the contribution of verbal communication from walking step synchronisation, which was inseparable in earlier research.

According to the scientists, pairs with a better first impression had greater synchronisation in their steps -- particularly for female participants. They said personal traits were also important. Female pairs, compared to male pairs, exhibited higher walking synchrony in the experiment, the study said.

Age also had an effect, according to the scientists. Older participants, they said, tended to synchronise with their partners more in walking, and subjects with lower autistic tendencies synchronised better than pairs with higher tendencies.

"It is very surprising for us to discover that a person's traits and our first impressions are reflected in the subtle action of walking. I think most people are not even aware that their steps are synchronised with other people as they walk," said Chia-huei Tseng, study co-author from Tohoku University. "It was previously known that a person's physical parameters such as height and weight affect how their movements interact with others. Now we know psychological traits also have an effect," Tseng said.



Walnuts Listed As Superfoods For Its Health Benefits

Agencies

Walnuts come packed with a plethora of health benefits and also make it to the superfoods list.

Including them in your daily diet may help ward off cardiovascular diseases, cancer, diabetes and chronic inflammation. Moreover, research suggests, walnuts as part of a healthy diet may play a role in helping to maintain and improve physical and cognitive health as people age.

An initiative by California Walnuts, 'Power of 3', urges people to include at least three handfuls of these nutty delights in their weekly diet.

Here are the top three reasons to include walnuts in your diet:

Good fats
Walnuts are predominantly made up of good, unsaturated fats including the essential omega-3 alpha-linolenic acid. Of the 18g of total fat in 28g of walnuts, 13g are polyunsaturated and 2.5g are monounsaturated, making them an ideal choice for a good-fat-food. According to FSSAI's Eat Right Guidelines, one must replace saturated and trans fat with monounsaturated and polyunsaturated fats naturally found in nuts, fish, and vegetable oils.

Plant-powered protein
Consuming a variety of foods, in-



cluding differently coloured seasonal vegetables and fruits, is essential to maintain a balanced diet. Protein can be found in plant foods such as nuts, seeds, legumes, pulses and soy-based foods. Plant proteins can be mixed and matched with other sources including seafood, lean meats and poultry, eggs, and dairy to help provide the balanced nutrition you need. One-fourth cup walnuts are equal to 4g of satisfying plant-based protein.

Nutrients, now

Walnuts offer a spectrum of beneficial nutrients that fit a variety of eating plans from Mediterranean and vegetarian to lower carbohydrate diets. Beyond good fats and plant protein, they are a natural source of antioxidants, gluten-free, and lower in carbohydrates (4g total per 28g, including 2g of fiber).

They can enhance almost any healthy eating plan to support an active lifestyle and provide the staying power you need to go the extra mile.

Sitting More Might Lead To Heart Diseases In Older Women, Suggests Study

Agencies

Sitting for longer durations might lead to higher risks of heart diseases for overweight or obese women post their menopause, suggests a new study.

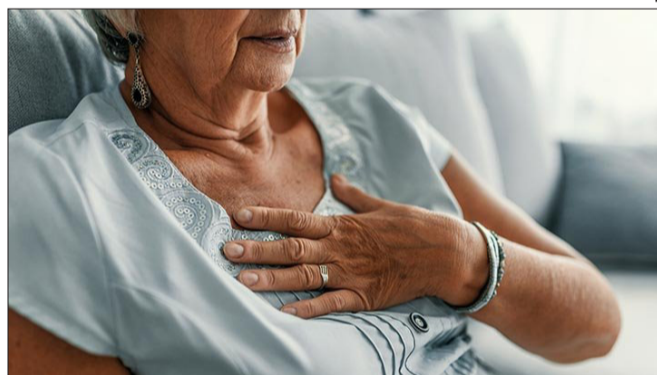
The study was published in the Journal of the American Heart Association.

In this observational study, researchers measured the sitting habits of older women who were overweight or obese.

Data from study participants was analyzed as a single group and by two ethnic groups - Hispanic women or non-Hispanic women - in order to determine if total sitting time and/or average uninterrupted sitting periods may have an impact on heart disease risk factors and whether these relationships varied by ethnicity.

From this data, the average total sitting time per day and the average time that participants spent in periods of uninterrupted sitting were calculated. Post-menopausal Hispanic women sat, on average, almost one hour less per day than non-Hispanic women of the same age group.

They also spent significantly less time in uninterrupted sitting. However, each additional 15-minute increase in uninterrupted sitting was linked with about a 5% higher fast-



ing blood sugar in Hispanic women, compared to a less than 1% increase in non-Hispanic women.

The study included a total of 518 women with an average age of 63 years and an average body mass index (BMI) of 31 kg/m2.

Study participants wore accelerometers on their right hip for up to 14 days, removing the devices only to sleep, shower or swim. The accelerometers were used to track and record sitting and physical activity of the study participants throughout the day. A single blood test, concurrent with accelerometer wear, measured blood sugar and insulin resistance.

"We were surprised to observe such a strong negative link between the amount of time spent sitting and insulin resistance,

and that this association was still strong after we accounted for exercise and obesity," said the lead researcher Dorothy D. Sears.

Insulin resistance is a strong risk factor for both cardiovascular disease and type 2 diabetes.

Analysis of the data revealed the following:

Post-menopausal Hispanic women sat an average of about 8-1/2 hours per day, compared to more than 9 hours per day among non-Hispanic women;

Each additional hour of sitting time per day was linked with a more than 6% higher fasting insulin and a more than 7% increase in insulin resistance; and

Each additional 15 minutes in the average sitting period was associ-

ated with a greater than 7% higher fasting insulin and an almost 9% increase in insulin resistance.

The analyses were adjusted for age, education, marital status, physical functioning, and ethnicity.

"The findings of this study build upon earlier research including our own, which showed, among older women, that too much time in sedentary behaviors was associated with a higher risk for diabetes and heart disease," said Sears.

"Reducing sitting time improves glucose control and blood flow, and engaging in physical activities, even light-intensity daily life activities like cooking and shopping, show favorable associations with reduced mortality risk and prevention of heart disease and stroke," Sears added.

"In addition, Hispanics are a population that is understudied with respect to health risks. Hispanic women may have genetic differences that may increase the negative effects that sitting has on blood sugar," said Sears.

"Health care providers should encourage patients, including older adults, to reduce their sitting time, take breaks in their sitting time and replace sitting with brief periods of standing or light physical activity," added Sears.

Kids Who Lie, Steal, Bully Well Into Adulthood May Have Smaller Brain Surface Area

Press Trust Of India

LONDON - People who exhibit lifelong, persistent anti-social behaviour, may have smaller surface areas in several brain regions compared to those who do not exhibit the trait, according to a study which may lead to better interventions for juvenile offenders. The study, published in the journal The Lancet Psychiatry, noted that individuals exhibiting life-course-persistent antisocial behaviour like stealing, lying, bullying, or violence may have thinner outer brain layer, the cortex, and smaller surface area in regions associated with anti-social behaviour, compared to those who do not exhibit the trait.

According to the researchers, including those from the University College London (UCL) in the UK, some people display life-course-persistent anti-social behaviour that begins in childhood and lasts into adulthood, whereas others exhibit the trait in adolescence which desists as they mature into adults.

In the study, they compared structural brain differences using MRI scans in people with either life-course-persistent or adolescent-only antisocial behaviour, and those without the trait. They said the results provided the first robust evidence to suggest that underlying neurological differences are primarily associated with life-course-persistent anti-social behaviour.

"Our findings support the idea that, for the small proportion of individuals with life-course-persistent antisocial behaviour, there may be differences in their brain structure that make it difficult for them to develop social skills that prevent them from engaging in antisocial behaviour," said study lead author Christina Carlisi from UCL. Carlisi said these people could benefit from more support throughout their lives.

"Most people who exhibit antisocial behaviour primarily do so only in adolescence, likely as a result of navigating socially difficult years, and these individuals do not display structural brain differences," she added.

Scientists Use Ai To Accurately Measure Blood Flow In Heart Patients

Agencies

A study has used artificial intelligence (AI) for the first time to instantly and accurately measure blood flow in heart patients and its results were found to be able to predict chances of death, heart attack and stroke.

This technique developed by researchers from UCL and Barts Health NHS Trust can be used by doctors to help recommend treatments which could improve a patient's blood flow.

Heart disease is the leading global cause of death and illness. Reduced blood flow, which is often treatable, is a common symptom of many heart conditions. International guidelines, therefore, recommend a number of assessments to measure a patient's blood flow, but many are invasive and carry risk.

Non-invasive blood flow assessments are available, including Cardiovascular Magnetic Resonance (CMR) imaging, but up until now, the scan images have been incredibly difficult to analyse in a manner precise enough to deliver a prognosis or recommend treatment.

In the largest study of its kind, fund-



ed by British Heart Foundation and published in the journal Circulation, researchers took routine CMR scans from more than 1,000 patients attending St Bartholomew's Hospital and the Royal Free Hospital and used a new automated artificial intelligence technique to analyse the images. By doing this, the teams were able to precisely and instantaneously quantify the blood flow to the heart muscle and deliver the measurements to the medical teams treating the patients.

By comparing the AI-generated blood flow results with the health outcomes of each patient, the team found that the patients with reduced blood flow were more likely to have adverse health outcomes including death, heart attack, stroke and heart failure.

The AI technique was therefore shown for the first time to be able to predict which patients might die or suffer major adverse events, better than a doctor could on their own with traditional approaches.

'New Eye Scan May Help Diagnose Autism Early In Children'

Press Trust Of India

Researchers have developed a new eye scan that they claim could help identify autism in children years earlier than currently possible, an advance that may lead to better ways of diagnosing the developmental disorder. According to the study, published in the Journal of Autism and Developmental Disorders, the non-invasive eye scan utilises a hand-held device to find a pattern of subtle electrical signals in the retina that are different in children on the autism spectrum.

The researchers, including those from Flinders University in Australia, tested the scan on about 180 people with and without autism between the ages of 5 and 21.

They said the potential biomarkers for autism spectrum disorder (ASD) utilised by the scan may also allow for early detection of other disorders, such as attention deficit hyperactivity disorder (ADHD).

"The retina is an extension of the brain, made of neural tissue and connected to the brain by the optic nerve, so it was an ideal place to look," said Paul Constable, a co-author of the study from Flinders

University.

He believes the test will be equally effective on younger children as it is quick, non-invasive, and uses a hand-held device.

"Very early diagnosis means not only can children receive important interventions, but families are empowered to get the necessary supports in place, come to terms with the diagnosis, and make informed decisions," Constable said.

"Now we have found a likely candidate biomarker for autism, the next stage is to look at young children, even infants, as the earlier we can get to intervention stages the better," Constable added.

According to the scientists, clinicians often encounter parents who have two or three young children with autism, since the chance of having a second autistic child is much higher for parents with one child on the spectrum.

They said early detection in firstborn children may give parents the opportunity to decide if they want to have more kids, with previous studies indicating an increased likelihood of siblings of autistic children are more likely to develop the disorder.