

Sunday Health Care

### Immune system can affect social behaviour, finds new study

In a startling discovery, scientists have found that immune system can directly affect, and even change, social behaviour, a finding that may have great implications for neurological diseases such as autism-spectrum disorders and schizophrenia. "Our findings contribute to a deeper understanding of social dysfunction in neurological disorders, such as autism and schizophrenia, and may open new avenues for therapeutic approaches," said Vladimir Litvak, assistant professor at University of Massachusetts Medical School (UMMS). Litvak and Yang Xu, a PhD student at UMMS, developed and employed a novel systems-biology approach to study the complex dialogue between immune signalling and brain function in health and disease. "Using this approach, we predicted an unexpected role for interferon gamma (IFN-gamma), an important cytokine secreted by T lymphocytes, in promoting social brain functions," Litvak said. Using the new approach, Xu defined canonical immune signalling signatures and analysed for their presence in thousands of publicly available brain transcriptome datasets. These studies uncovered a hidden connection between T-cell mediated immune signalling and social brain

function. Researchers found that various organisms, including rodents, fish and flies, elevate IFN-gamma signalling in social contexts. These findings suggest that the IFN-gamma signalling pathway may mediate a co-evolutionary link between social behaviour and an efficient anti-pathogen response that might be critical for herd immunity. Jonathan Kipnis, of the University of Virginia School of Medicine showed that blocking IFN-gamma in mice made mouse brains become hyperactive and caused atypical social behaviour. Restoring of IFN-gamma-signalling in the brain normalised brain activity and social behaviour. The brain and the adaptive immune system were thought to be isolated from each other, and any immune activity in the brain was perceived as a sign of pathology, said Kipnis. "And now, not only are we showing that they are closely interacting, but some of our behaviour traits might have evolved because of our immune response to pathogens," said Kipnis. The researchers note that a malfunctioning immune system may be responsible for "social deficits in numerous neurological and psychiatric disorders." However, exactly what this might mean for autism and other specific conditions requires further research. The study was published in the journal, *Nature*.

Short story

### Change yourself and not the World

Long ago, people happily lived under the rule of a king. The people of the kingdom were very happy as they had a very prosperous life with abundance of wealth and no misfortunes. The king decided to go on a travel to visit places of historical importance and pilgrim centres at distant places. He decided to travel by foot to interact with his people and accompany them. People of distant places were so happy to have a conversation with their king and they were proud that their king was so kind with a good heart! After several weeks, he returned to the palace. He was quite happy that he visited many pilgrim centres and could see his fellow people leading a propitious life. However, he had regret. He had intolerable pain in his feet as it was his first trip by foot to longer distance. He complained to his ministers that the roads weren't comfortable and were very stony. He could not tolerate the pain as he walked all the way through the rough path. He said he was very much worried about the people who used to walk along those roads as it would be painful for them too! He made an order to cover the road of the whole country with leather

so that people might feel comfortable, immediately. The king thought that he had to change this for the betterment and happiness of the people. His ministers were stunned to hear his order as it would destroy the life of thousands of cows to get the sufficient quantity of leather and it would cost a huge amount of money also. A wise man from the ministry came to the king and said that he had another idea. The king asked - what was his alternative idea. The minister told, "Why do you want to kill the holy animal cow to cover the road with leather? Rather, you can just have a piece of leather cut in appropriate shape to cover your feet?" The king was very much surprised by his suggestion and applauded the minister. He ordered for a pair of leather shoes for him and requested the countrymen to wear shoes. **Many of us criticize the world for many things. We curse and blame the things in our surroundings and never understand that we need a change in us. Changes are inevitable in the world, and the changes should be from us. We cannot or should not force others to make a change.**

## Opendro from Manipur, the first Indian to complete 4400 miles (7000 KM) "Trans Am Bike Race"

**By : Chitaranjan Thoudam**  
Opendro is the first Indian, probably the first Asian, to ride and complete the 7000 km long Trans Am Bike Race. Thoudam Opendro Singh is a software professional from Bangalore and a native of Thoudam, Manipur. He used to cycle to commute to school in Ningombam which was 9 km away from home. Back then, it was a way to commute. Yet, he used to ride this distance in village roads in about 20 minutes. His passion for cycling developed when he became a part of cycling community called Bangalore Bikers Club sometime in 2010. Back then, 100 km ride was considered a long ride. Things changed when Bangalore Brevet (<http://bangalorebrevets.in/>) organized rides of distances 200, 300, 400, 600, 1000 and 1200 km within a cut-off time. The riders called themselves randonneurs. He bought a road bike in April 2011 and since then he has done 600 km in 2011, 1000 km in 2012. He was also the lone finisher in a touch 1240 km brevet in 2013 which saw continuous storms (<https://brevetmgr.appspot.com/brevet/july2013-1200/results>). His hunger for more challenge grew and he was part of a team that crafted a much tougher 1200 km brevet through many mountains in 2014 which came to be known as Bliss in the Hills (<http://www.bangalorebrevets.in/2014/07/bliss-in-the-hills/>). He rode the route himself and was one of



the 4 finishers out of 76 riders (<https://brevetmgr.appspot.com/brevet/oct2014-ooty/results>). He repeated the same route in 2015. He was still hungry for more challenges. He didn't believe himself to be a super human and wanted to prove that ultra distances can be ridden with simple preparations and equipment. In a way, he wanted to remove the fear among many randonneurs of doing really long distance rides. At the same time, he didn't want to spend too much. Trans Am came about just then and it fit his bill. It is about 7000 km long race along a typical touring route through high mountains, dense forests and country roads connected by bits of highway and small towns, on solo, all on self support, i.e. avail facilities, help and support that is available commercially along the route. One cannot take help from another

rider, friends, families, etc. He set out on the cheapest road bike in the market, which was **btwin sport 1**, which has been used for 6 years. Every rider is tracked using a unique GPS tracker that would transmit its locations regularly to telecommunication satellites and back to relay towers and trackers running on servers on the ground. Everyone is on his or her own to manage food, water, rest, sleep, clothing, laundry, lights for nights, power sources for electronic equipment, route map, tackling snow, heat, wind and rain and at times road blockades and diversions. Riders of all kinds from all over the world come and race. Some would come with the aim to do their best and win while some would come to enjoy the beautiful and scenic route. Whatever the aim is, every rider is challenged in so many ways that physical stamina is just a small part of the race. It needs strong will, determination, planning and attitude. Opendro set out with an aim to race hard. But change of climate and food hit him hard. Some illness in the weeks preceding the race made the matters worse. Eating just about a small portion of what he would normally eat in such long rides, he was struggling to pick up pace. Sleeps didn't come easy with the ailing condition. Three to four hours of sleep a day on any surface is a luxury. He would typically sleep on road side grass or gravels, motels, shades outside convenience stores and gas stations, churches, etc. He would skip sleep in some nights altogether. He would nap standing, leaning on the bike if necessary or

just sitting with heads buried between knees. Due to unexpected heat or rain or headwind, running out of water or food still happened in spite of planning. At around 2500 km, he almost quit due to severe stomach upset. But he felt better after about 30 hours of rest and decided to continue. There was no looking back since then. He avoided foods that gave troubles, planned his stops better depending on the distance to the next town and weather conditions. Still recovering from the upset stomach, he took it easy for another 1000 km or so. Then he picked up pace gradually in the second half of the race, finishing the entire 7000 km in 27 days and 7 hours, a week more than his initial target. "Taking more days, resting in the comforts of motels often, riding at slow pace made me feel like I was on a vacation and it took away some pride from the hard work. But it is any day better than quitting which I was about to at the initial stage. I'm satisfied with the completion". He finished 30th out of 67 as per the live tracking with final results pending. "I want to dedicate this feat to my mother who taught me perseverance and my wife who had wholeheartedly supported me for this mission. I owe a lot to my family members, friends and strangers around the world, cycling enthusiasts and well wishers alike for encouraging and lending immense moral support through tough times". He has no further plans of any major ride. He has done proud to the country. "I would be glad if my ride could inspire many common citizens to take up cycling for day today transportation and confidently take up such long endurance rides". He himself claims as a more family man than an athlete. He trained for a mere 20 hours over two months preceding the race, running in parks and a couple of rides with friends. Most of the effort went in gathering information about the race, route, logistics, bike equipment, accessories and expenses. Now, he just loves to ride with his five year old daughter around parks or in the road in an early Sunday morning.

### National & International News

#### 90 days leave for sexually harassed victims

**New Delhi, July 17:** Women working in the central government who have filed sexual harassment complaints will now be allowed 90 days paid leave during the inquiry into their allegations, the Centre has said. The Department of Personnel Training issued an order stating that, "The leave so granted to the aggrieved woman under this rule shall not be debited against the leave account." The announcement comes after there have been complaints of the accused attempting to influence or

threaten victims who have filed complaints against them, PTI reported. "It will come as a relief to the victims who undergo a lot of trauma while working in the office that too in the presence of the accused," a senior DoPT official told PTI. The provision was made under the Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act, 2013 and incorporated in the Central Civil Services (leave) Rules, 1972.

#### Three top NDFB(S) militants killed in Assam

**Kolkata, Jul 17 (PTI)** In a series of joint operations, the Army and Assam Police today gunned down three top NDFB(S) militants in Kokrajhar district. On specific intelligence inputs on movement of hardcore NDFB(S) terrorists, Army challenged suspected individuals who were moving through dense jungles in the early hours today. After coming under "heavy nondiscriminatory fire" the joint team retaliated with controlled fire and killed the three hardcore NDFB(S)

militants, the officials said. Two of them have been identified as Rahul Basumatary and Ritu Basumatary, officials said. Four pistols, a large quantity of ammunition, hand grenades have been recovered from the slain militants. Officials claimed that the surgical operation which was carried out under torrential rains, in thick foliage and undergrowth of the Assam jungles, is a major setback to the NDFB(S), which has been active in the area.

#### Curfew remains in force in Kashmir; normal life paralysed

**PTI Srinagar, July 17:** Curfew remained in force in Kashmir and normal life paralysed for the ninth day today in the wake of clashes following killing of Hizbul Mujahideen commander Burhan Wani that left 39 persons dead and over 3100 injured. "All 10 districts of Kashmir valley continue to remain under curfew today as a precautionary measure for maintaining law and order," a police official said. He said the decision to continue the curfew was taken to maintain law and order as one person was killed in fresh violence in Kupwara district yesterday. Police and paramilitary personnel have been deployed in strength across the

Valley for strict implementation of the prohibitory orders, the official said. He said the situation so far across the Valley was peaceful. "We are watching the situation and hope the day passes off peacefully," he added. While all telephone services to three north Kashmir districts were snapped yesterday, mobile telephone services in the Valley remained suspended to prevent any rumour-mongering. Only BSNL mobiles are working in the remaining seven districts of the valley. Mobile Internet services continued to remain suspended for the seventh day today while trains are also off the tracks in the Valley as a precautionary measure.

### Sunday Infotainment

#### Listening To Extreme Music Reduces Violence And Makes You Feel More Positive, Study Finds



**By : Alex Watt**

A new study has found that listening to heavy metal actually has a calming influence. Although the lyrical content of extreme music often deals in anger, researchers found that it instead enhanced listeners' positivity and regulated sadness. Although some believe that loud music is linked to aggressive behaviour, the new research by The University of Queensland's School of Psychology honours student Leah Sharman and Dr Genevieve Dingle showed listeners mostly became inspired and calmed by heavy metal. Music from bands like Slipknot,

Five Finger Death Punch and Judas Priest were included in the study published in *Frontiers in Human Neuroscience*. 39 regular listeners of heavy music aged between 13 and 34 were deliberately "angered" by being asked to recall frustrating events in their lives, and then listened either to 10 minutes of music of their choice or spent 10 minutes in silence. Those who listened to the music generally became inspired and mellow after the 10-minute period. So, there you go, irrefutable proof that the next time you feel wound up you should crack on 'Surfacing' by Slipknot and you'll feel much better!

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