

PHOTO COURTESY: MIT

How does a football swerve?

It happens every four years: The World Cup begins and some of the world's most skilled players carefully line up free kicks, take aim – and shoot way over the goal.

When such shots go awry in the World Cup, a blame game usually sets in. Players, fans, and pundits all suggest that the new official tournament ball, introduced every four years, is the cause.

It is harder to control a smoother ball, such as the much-discussed "Jabulani" used at the 2010 World Cup. The one used at this year's tournament in Brazil, the "Brazuca," had seams that were over 50 percent longer, one factor that makes the ball less smooth and apparently more predictable in flight.

"The details of the flow of air around the ball are complicated, and in particular they depend on how rough the ball is," writes John Bush, a professor of applied mathematics at MIT. "If the ball is perfectly smooth, it bends the wrong way."

Less domestic violence among married couples who smoke pot

New research findings from a study of 634 couples found that the more often they smoked marijuana, the less likely they were to engage in domestic violence.

The study was conducted by researchers in the University at Buffalo School of Public Health and Health Professions and Research Institute on Addictions (RIA). Looking at couples over the first nine years of marriage, the study found:

More frequent marijuana use by husbands and wives (two-to-three times per month or more often) predicted less frequent intimate partner violence (IPV) perpetration by husbands.

Husbands' marijuana use also predicted less frequent IPV perpetration by wives.

Couples in which both spouses used marijuana frequently reported the least frequent IPV perpetration.

The relationship between marijuana use and reduced partner violence was most evident among women who did not have histories of prior antisocial behavior.

The study appeared in Psychology of *Addictive Behaviors*.

Compiled by AMITAVA KAR