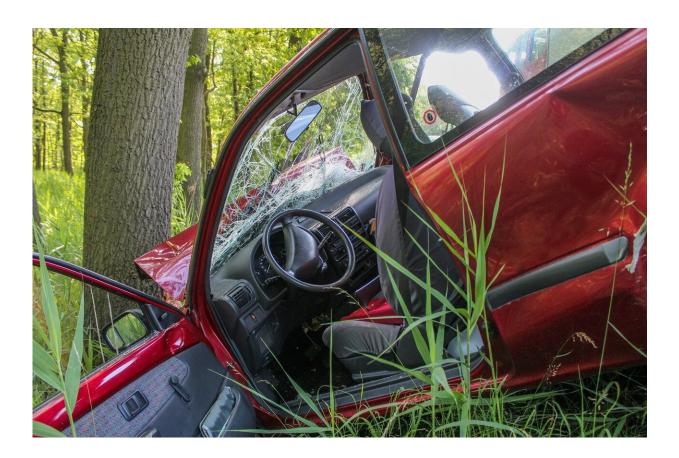


Popular European football games linked to traffic accidents in Asia

December 16 2020



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Days when high profile European football matches are played are associated with more traffic accidents in Asia than days when less popular matches are played, finds a study in the Christmas issue of *The*



BMJ.

One explanation may be that Asian drivers stay awake until the early hours of the morning to watch high profile football games and lose sleep as a result.

Football is viewed by more people worldwide than any other sport, but most high profile games are played in Europe, so fans who live outside Europe must watch these games at odd local times owing to differences in <u>time zones</u>.

Asian fans are the most affected, as games scheduled to start at 8 pm in Europe means fans in Beijing, Hong Kong, and Singapore have to stay up until 4 30 am to finish the game, while fans in Seoul and Tokyo have to stay up until 5 30 am.

Given that sleep deprivation is associated with poor attention management, slower reaction times, and impaired decision making, one theory is that drivers are more likely to be involved in traffic accidents on days when high profile football games air early in the morning.

If true, this would have important policy implications, as traffic accidents can result in considerable economic and medical costs.

To test this idea, a team of researchers based in China, Singapore and the U.S. analyzed close to 2 million traffic accidents among taxi drivers in Singapore and all drivers in Taiwan together with 12,788 European club football games over a seven year period (2012-2018).

The popularity of a given match was determined according to the average market value of teams (a combined measure of players' salaries). With this metric, a game between Manchester United and Tottenham Hotspur will be classified as popular whereas a game between Burnley



and Crystal Palace will be considered less popular.

After taking account of potentially influential factors such as driver age, gender and experience, weather conditions, time of year, and weekend versus weekday effects, the researchers found that days when high profile football games were aired also had higher than average traffic accidents in both Singapore and Taiwan.

For an approximate €135m (£120m; \$160m) increase in average market value for matches played on a given day, around one extra accident would occur among Singapore taxi drivers, and for an approximate €8m increase in average market value of matches, around one extra accident would occur among all drivers in Taiwan.

Based on these figures, the researchers estimate that football games may be responsible for at least 371 accidents a year among taxi drivers in Singapore (this figure is likely to be much larger across all drivers in Singapore) and around 41,000 accidents per year among the Taiwanese general public.

In terms of annual economic losses, they estimate these to be more than \in 820,000 among Singapore <u>taxi drivers</u> and almost \in 14m among Taiwanese drivers and insurance companies, although they stress that these figures should be interpreted with caution.

This is an observational study, so can't establish cause, although the researchers were able to rule out many alternative explanations such as roadside conditions and driver characteristics. The researchers also point to some limitations, such as a lack of data on the severity of the <u>accidents</u> reported and being unable to compare match days against non-game days.

Nevertheless, they suggest that football's governing bodies could



consider scheduling high profile games on Friday or Saturday evenings local European time (Saturday or Sunday early mornings local Asian time) when fans can sleep in immediately after watching games.

Alternatively, increasing roadside safety in Asia on high profile game days (for example, more traffic patrols), as well as banning all video based devices for <u>drivers</u>, could potentially reduce these <u>economic</u> <u>impacts</u> and injuries related to <u>traffic accidents</u>, they write.

Given that Asia has the most populous time zone, encompassing 24% of the world's population, the total health and economic impact of this finding is likely to be much higher, they conclude.

More information: Association of high profile football matches in Europe with traffic accidents in Asia: archival study, *BMJ* (2020). DOI: 10.1136/bmj.m4465

Provided by British Medical Journal

Citation: Popular European football games linked to traffic accidents in Asia (2020, December 16) retrieved 15 February 2023 from <u>https://medicalxpress.com/news/2020-12-popular-european-football-games-linked.html</u>

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