

17 October 2014, 6.30am AEDT

## Want to win? Let music give you the edge

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**Disclosure Statement** Peter Terry receives funding from the Queensland Academy of Sport.



The last time the Wallabies played the Argentina Pumas they lost – was an incomprehensible national anthem part of the problem? AAP Image/ Dave Hunt

Let's hope the Wallabies are inspired by a rousing rendition of the national anthem as they prepare to face their old enemy the All Black's at tomorrow's Bledisloe Cup match. The Kiwis invariably come out fighting after the chest-thumping, thigh-slapping ritual of their traditional haka.

The last time the Australian team prepared to do battle on the field, an incomprehensible version of the anthem left them [chuckling with mirth](#) at kick-off rather than fired up with nationalistic fervour.

Did Argentinian tenor Marcelo Zelada deliberately botch his rendition of Advance Australia Fair? The Pumas went on to [defeat the Wallabies](#) 21-17 so perhaps Zelada was onto something.

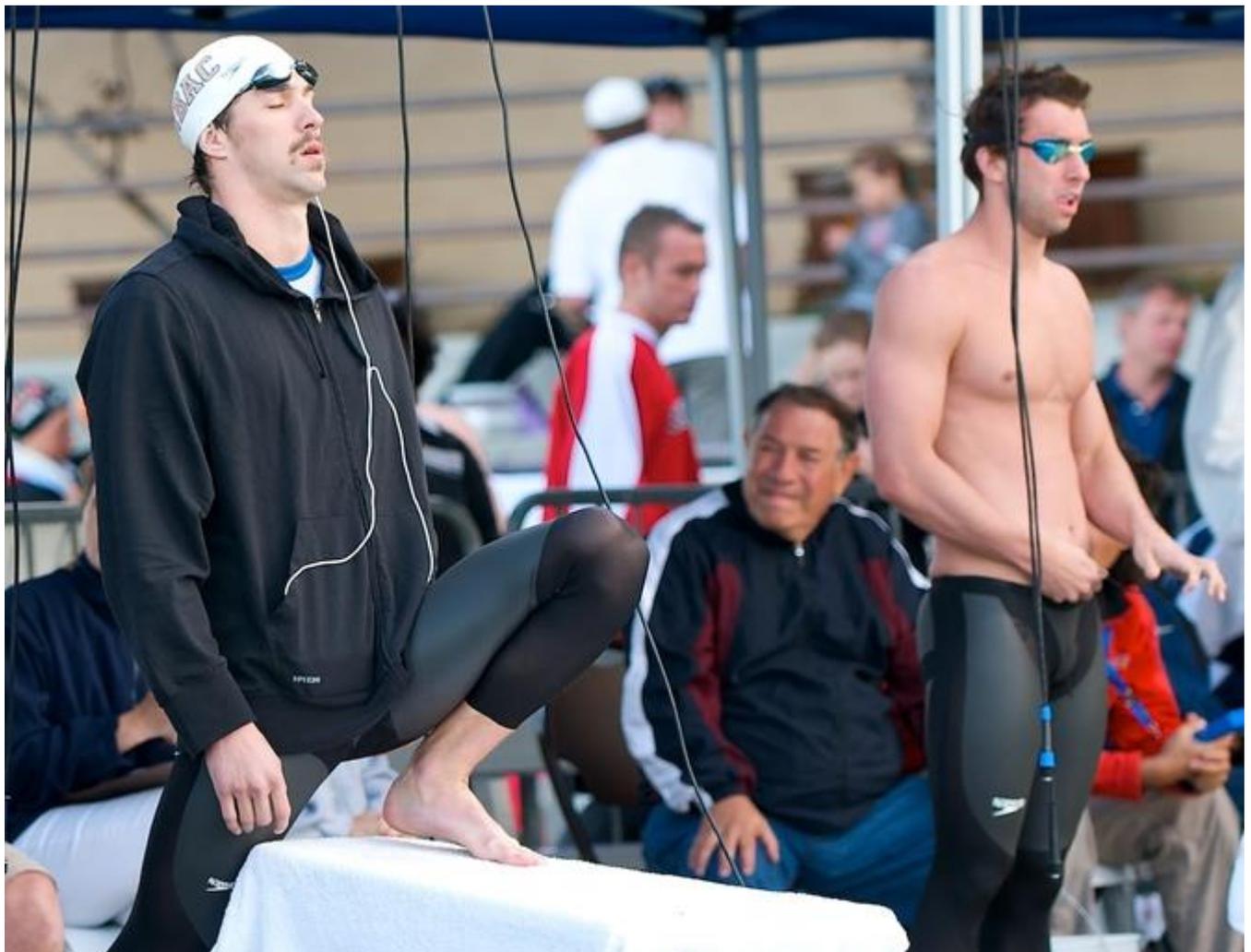
## More than just easy listening

Millions of joggers habitually cope with the physical discomfort of running using the distractive effects of music, in particular by synchronising their stride rate to the tempo of the music.

Swimmers now embrace the tedium of endless laps by tuning in to their favourite tracks, thanks to tiny MP3 players that clip onto goggles and deliver music through the cheekbone direct into the inner ear.

For athletes to be headphone-clad has been de rigeur for many years but it now appears to be almost compulsory.

After music devotee Michael Phelps swam to an all-time record of eight Olympic gold medals in 2008, one of his first tasks when arriving home was to personally thank rap artist Lil' Wayne for the inspiration he had provided in Beijing.



What does Michael Phelps (left) listen to before a race? It's usually rap artists like Eminem and Lil' Wayne.

But is the ubiquitous use of music by athletes and exercisers justified or simply hype? Well, decades of research on the use of music in sport and exercise has confirmed some powerful effects and surprising benefits.

## Music and performance

The first published [study](#) on the subject, in 1911, showed that cyclists in a six-day race in New York produced faster lap times when a brass band was playing.

Although it was impossible to separate the effects of the music from the increased crowd noise that it generated, this humble observation paved the way for the many scientific studies that have followed.

A recent meta-analysis of more than 100 empirical investigations of music in sport and exercise conducted over the past century has confirmed that music produces significant beneficial effects on psychological responses, perceived exertion, physical performance, and even physiological functioning.



Listening to the right music can improve your performance.

Although it should be no surprise that music influences psychological responses, – especially our moods, emotions and feelings – the ways that athletes use music to manipulate their pre-competition mindset are occasionally surprising.

Olympic rowing champion, James Cracknell, listening to the Red Hot Chili Peppers' Get On Top to inspire him to the ultimate effort is logical enough.

But what music would you recommend to an Olympic super-heavyweight boxer before his gold medal bout? Tina Turner's Simply The Best or Survivor's Eye Of The Tiger would be popular choices. But how about Japanese classical music?

When you're a technical boxer trying to generate the qualities of speed, lightness, precision and relaxation to outbox a brawling opponent then his choice of music starts to make sense. It certainly worked for Great Britain's Audley Harrison, a former student of mine, at the Sydney 2000 Olympics.

## **The rhythm of exercise**

Music has the capacity to reduce perceived exertion by about 10% when used during physical activity, which explains the enduring popularity of exercise-to-music classes.

The stimulative and motivational properties of up-tempo music, with lyrics that encourage effort (Bruce Springsteen's Born To Run, Britney Spears' Stronger) and associations of glory or success (M People's Search For The Hero, Gloria Gaynor's I Will Survive) typically help exercisers to work harder for longer by masking the objective level of effort. In turn, this produces a performance benefit that some elite performers have been able to exploit.

Ethiopian superstar runner, Haile Gebrselassie, the double Olympic 10,000m gold medallist and multiple world champion, has broken several world records while running in time to the high-tempo song Scatman, the rhythm and tempo of which he describes as "[perfect for running](#)".



Haile Gebrselassie celebrates after winning the 2008 Great Australian Run in Melbourne. Did a song help him to victory? AAP Image/Joe Castro

A 2012 [study](#) conducted with elite triathletes at the Queensland Academy of Sport showed that treadmill running to exhaustion was increased by a staggering 18% when participants ran in time to music that included everything from Oasis and UB40 to Beyoncé and Taylor Swift, compared to completing the same task without music.

Such clear performance benefits have caused music to be labelled a “[legal drug](#)” by some commentators.

Perhaps for this reason, many sports prohibit listening to music while performing. The New York Marathon famously tried to “[strongly discourage](#)” competitors from using personal listening devices in 2007, ostensibly for safety reasons.

The outcry and outright defiance from a large proportion of recreational runners who used their iPods regardless, caused race organisers to subsequently restrict the ban to elite runners, many of whom prefer to focus attention on sensory feedback from their own bodies rather than, as they see it, the distracting effects of music.

## **Sing when you're winning**

Of course nothing can prevent athletes from creating their own musical rhythm during a race, like six-time marathon kayak world champion, Anna Hemmings, who gained an edge by singing R. Kelly's The World's Greatest to herself, but only during the world championships so as not to dilute its impact.

Other [recent studies](#) have demonstrated greater physiological efficiency when exercising to music, notably the completion of identical workloads using significantly less oxygen consumption than without music. This indicates that music effects are far more than just a psychological phenomenon.

Whether the physiological benefits are explained by greater biomechanical efficiency derived from a metronome effect, improved blood flow derived from a generalised relaxation response, or some other mechanism that is not yet well understood, there is little doubt about the wide-ranging potential benefits of listening to music.

There's no shortage of ways to use music to your advantage and many different musical genres have been shown to boost athletic performance, although preferably not something that leaves the Wallabies giggling before taking on the All Blacks in Brisbane tomorrow evening.