

The Research Files Episode 36: Student fitness and wellbeing

AUDIO

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Hello, thank you for downloading this podcast from Teacher – I'm Jo Earp.

In this instalment of The Research Files we'll be discussing student fitness and wellbeing, specifically, two simple exercise programs – the first is a new project aimed at improving adolescent health and wellbeing, and the second is being used by thousands of early years and primary students across the world. We'll talk to the founder of The Daily Mile, retired Scottish head teacher Elaine Wyllie, later in this episode but my first guest is Dr Jordan Smith from the University of Newcastle, here in Australia. He's one of the research team working on Burn2Learn, a four year project working with Year 11 students to improve their physical, cognitive and mental health. Here's Jordan explaining what the intensive exercise program – designed by the project team – involves.

Jordan Smith: It involves schools and students participating in two to three high intensity interval training sessions each week for around about two school terms. The aim of this is to find a feasible way of getting young people to participate in some high intensity exercise that's going to ultimately be beneficial for their health and wellbeing, and HIIT (or High Intensity Interval Training) is a really effective way of doing that.

This is really predicated on the fact that we know senior students are time poor, they've got a lot of commitments in their life – they've got study commitments, they're maybe doing part-time work, they have family commitments, they maybe have romantic relationships, and friendships – that are taking up their time. So we wanted to come up with something that was going to be effective but also time efficient for this group, because we know that's really important.

Most people, when they think about high intensity interval training, they think about a personal trainer flogging them as hard as they can in the gym, on an exercise bike, or maybe doing multiple sprints out on an oval; and none of that really probably seems too fun, for most people, when they think about that. So, what we've done is

we've tried to really use the approach, we're still using a high intensity style of training with work and rest intervals but we're trying to deliver it in a way that's more engaging and more interesting for young people. Because, we know that asking them to just flog themselves at school is probably not going to work long-term.

So, what we've come up with is a range, or a variety of different HIIT workouts that have a different focus, so there's something for everyone. We've got Gym HIIT, which is just standard bodyweight resistance training activities mixed in with some aerobic exercise; we have Hip-hop HIIT, which is a bit of a mouthful, but that's utilising hip-hop dance moves for those that might be interested in that style of exercise. We have mixed martial arts and boxing style activities in a version called Combat HIIT and a range of other ones as well. So, we're trying to come up with a variety of different activities that we think will appeal to the different preferences of young people.

Jo Earp: The Burn2Learn team is working with teachers in schools in New South Wales. I asked Jordan why Year 11 students had been chosen as the target, and what the research says about the health and wellbeing of that age group.

JS: We chose senior school students because they're a group that are often overlooked in health promotion programs – a lot of school-based or community-based physical activity programs target primary school-aged youth or maybe younger adolescents, and Year 11 and 12 students really get overlooked in this area. So, they're a group in need of intervention. If we look at the overall adolescent population, only about 1 in 5 meet current physical activity guidelines and if we look at senior school students specifically only around six per cent of those meet current physical activity recommendations. So, they're a highly inactive group and they're a group that also has no compulsory physical activity in their school day anymore, which is different to junior high school, in which students have to do physical education as part of their normal school week. So, they're a group that could really benefit from physical activity because they are highly inactive but they're a group that also don't get the opportunities to be active.

One of the main reasons ... why senior students should be more active is the psychological benefits that they can get from regular physical activity. There are some really alarming statistics at the moment around youth mental health ... [about] 1 in 5 report 'high' or 'very high' psychological distress, and they often report school-related stress as being a major contributor. Which, as we know, senior school students they're worried about their futures, they're worried about performing well in exams, so we know that this is really contributing to stress and anxiety in this group. Some other alarming statistics – if you took the average school classroom,

about two students in that classroom will be suffering from an anxiety disorder, about one on average will have major depressive disorder and, on average, two students will have seriously considered taking their own life (Lawrence et al, 2015). This is a group that really need strategies for improving their health and wellbeing and we know from decades of research that regular physical activity is one effective way of improving their mental health.

JE: The nationwide statistics mentioned there are from the 2015 Australian Government report *The Mental Health of Children and Adolescents* (<http://www.health.gov.au/internet/main/publishing.nsf/content/mental-pubs-m-child2>) and we'll include a link to that in the transcript of this podcast published on our website, that's [teachermagazine.com.au](http://www.teachermagazine.com.au) (<http://www.teachermagazine.com.au>). The four year Burn2Learn project runs until 2020 and the team has just completed its pilot study. Now, Jordan Smith says there have already been some exciting early results.

JS: Before we start the main trial – which is due to commence next year – we wanted to test out our idea and get an idea of how it would work in schools with real teachers, real schools, real students. We delivered a pilot study in two schools in Newcastle involving 68 students in Year 11 and we had some really positive findings. You have to remember that with high intensity interval training it's very low volumes of exercise – we're talking about two to three 10 minute sessions a week, so very small amounts of physical activity that they're actually participating in, albeit done at high intensity.

What we found is we had statistically significant effects on their health-related fitness – so, their aerobic fitness and their muscular fitness – which is quite interesting considering the very low volume of exercise that they're doing.

But, probably more importantly we did see positive effects for their mental health as well. We used a self-report questionnaire which is called the Strengths and Difficulties Questionnaire. It gives an overall score, which we can compare between the two groups that we had in our study – one group received the Burn2Learn program and one group didn't, they acted as the control group. What we found is we had significant effects on two domains of mental health issues ... emotional problems was one and the other was peer problems. Just to explain that a little bit further, what we found is that the students in the control group, their level of emotional problems stayed at round about stable or went up slightly during the 14 week study period, whereas those that we doing the Burn2Learn program in the intervention school, they saw a drop in their emotional problems. They were experiencing fewer problems like feeling anxious and stressed, feeling unhappy and

having low self-esteem, that kind of thing. The other domain where we saw a positive effect was in peer problems. This was a little bit surprising because we thought that maybe the students will be working together while they're performing the exercises and they might generate a stronger social connection with one another, but we weren't sure that an intervention that's so low 'dose' I suppose would have such a positive effect. But, we found that students that participated in the program also experienced stronger social connectedness with their friends; they were less likely to report being bullied, and more likely to report having positive relationships with their peers. So, we really thought they were some really positive findings.

JE: Just to reiterate then, those findings are from one pilot school over a 14 week period, but the next stage of the project will see things scaled up.

JS: Absolutely, our pilot trial, while the findings are very promising and they do give support to our idea around how this program might be beneficial, it's not definitive, it's just one school that got the program compared to one other, but it's proof of concept. It tells us that we're definitely onto something and we need to test this out in a larger cohort.

So, what we've got planned next is a large what's called a cluster randomised control trial. We're going to recruit 20 schools over the next few years and we're going to do that in two cohorts – we're going to do that in 10 schools next year and then another 10 schools the following year (we're actually doing recruitment at the moment for that), and we're going to test it with a larger sample to see whether our initial positive findings hold and whether they have the same benefits that we've seen so far.

JE: Dr Jordan Smith there, talking about the Burn2Learn program targeting the health and wellbeing of senior secondary students. Now let's move to the other end of the school age range, and the other side of the world actually, to find out about a simple exercise program that's having a positive impact on primary students. My second guest is Elaine Wyllie, former head teacher of St Ninians Primary School in Stirling, that's in central Scotland, and founder of [The Daily Mile](https://thedailymile.co.uk/) (<https://thedailymile.co.uk/>). Here, she explains what prompted her to set up the program that's now being used in schools around the world.

Elaine Wyllie: I'd heard previously about concerns around children's fitness and their weight. In February 2012 a volunteer in the school, an elderly gentleman, said to me 'Elaine, the children are not fit'. I checked with the PE teacher and she said 'No, they're not fit, most of them are exhausted by the warm-up in PE'. And so, just to

confirm things for myself, I took a Year 5 class out (10-year-olds) to see if they could run around the field, because I'd often thought why don't children just run around the field to get fit, wouldn't that work?

Anyway, I asked them to run around the field and it was a shocking sight – most of them couldn't get as far as halfway round before they were exhausted. A handful were alright and could keep going, but most of them were thoroughly exhausted by even halfway round the field. I had a chat with their teacher, and the children, and together we decided that they would run around the field every day for 15 minutes just to see if they could build up their fitness. That was in February 2012. For four weeks they did that, and I and everybody else was amazed at what happened next.

The children love The Daily Mile and I think one of the reasons is because they don't absolutely have to run if they don't want to, but in practice most of them do a mile or more in the 15 minutes. But it's key that it's always a time, never a distance. So, no child is told 'right, you have to run a mile', like in cross country. It's not like that ...

After the four weeks we noticed a significant improvement in children's behaviour across the class, but also individual challenging behaviour. The children were much fitter and most of them could run for 15 minutes without stopping, and they could run several times around the field. And, in fact, we discovered that in the time of 15 minutes they were averaging a mile and so that's why it was called The Daily Mile.

But, the benefits to relationships, to children supporting each other, using the language of friendship, relationship between staff and children – because they're outside and there's no classroom four walls it's a bit different so children would approach the teaching staff more readily – all these benefits. But I suppose we noticed that the children were coming in apple-cheeked, bright eyed, cheery, happy and learning ready. Very quickly, the excitement of going out every day changed into just 'this is what we do' and the transitions going out and coming back in were very slick. So, no time spent changing, no wasted time, simply 'pencils down, out we go', run, run, run and straight back in. So, a very powerful and important 15 minutes that gave a whole lot of benefits. And we discovered all of that after one month and one class.

JE: There are lots of tips on The Daily Mile website about how to start the program in your school – there's no funding needed, students don't need to get changed to do it so there's no special kit, and it's not timetabled, so teachers themselves decide when to take their class out each day. Another important thing is course design, and Elaine says it's important to make it a non-competitive, lap course.

EW: That's very important. So, what we're looking for is a child-pleasing squiggly path ideally – you don't want a big running track, an eight lane oval, nothing like that – something that maybe just goes around the edge of the playground. Very often schools don't need to install a path because they have a hard surface in the playground. It can't be muddy, the children can't run in mud.

But, otherwise there's no setup and that all saves time and preparation for teachers. There's no workload at all for teachers, there's no assessment, moderation, there's no planning, nothing. The children simply go out. In fact, one head teacher said the class teacher simply opens the classroom door and takes the children out, and thereafter of course motivates and works with the children, but there is no workload or preparation for staff. No equipment, no setup, no tidy up, no kit – and that's really, really vital. Children from the least and most deprived backgrounds are out there – there's no fancy cool kit, or uncool kit, there's no unwashed or forgotten kit, there's no time spent changing. There's no revealing your body, no body image issues, you're just out in what you're wearing. All these things are really, critically important ...

As you rightly said it's non-competitive, and as soon as they're out (they go out in line order, someone leads the way), then off they go and in seconds you can't see who's in the lead, there may even be a class out there already and they're just going around. Ideally, your path would be probably five to 10 laps to a mile. What you'll find is that children of different ages, different classes will support each other, encourage each other, help each other and it's a very social and happy and fun occasion. ...

Our vision and aim is to have The Daily Mile as an entitlement for all children, because 66 per cent of UK 10-year-olds have no basic fitness, yet in a Daily Mile school all the children are fit. It's very important The Daily Mile is 100 per cent inclusive – every child, every day. Children in wheelchairs can self-propel, or they can be pushed, children with cerebral palsy, brittle bone disease, asthma, diabetes, they're all out there being supported, as required, to take part, but they're out there in the fresh air with their friends. Everyone goes out every day, no one is left behind.

JE: I'm talking to Scottish head teacher Elaine Wyllie, who founded the program in 2012. Now, a lot has happened in the last five years; here, she explains how The Daily Mile has spread across the world.

EW: My husband and I are both retired and we both work almost full-time (we could work full-time but we do try and make some time for ourselves) on The Daily Mile. There is a Daily Mile Foundation, which was set up by Jim Ratcliffe, who is a wealthy

philanthropist, so we have a small team in London who support us ...

At the moment [it's in] 32 countries, some of them we have government level agreements with – Wales, Belgium, Scotland (and Scotland is aiming to become the first Daily Mile Nation). We have London on its way to becoming the first Daily Mile City, Guernsey on its way to becoming the first Daily Mile Island, and it's in 32 countries. So, there are 720 schools in Belgium that do it.

One of the things we have is a participation map and of course schools can register but often they hear about The Daily Mile not from our website, and so the participation map is not an accurate reflection of numbers. In Lewisham in London 22 schools and rising are doing The Daily Mile, but we only have two or three registered, so we don't have a clear picture of exactly how many and every day schools are joining in the movement ...

It's in primary and nursery mainly. So, at St Ninians our three-year-olds did it and could easily, once they'd done it for a wee while they could easily do a mile in the time. In Wigan and Wales the two-year-olds do it, so it's very much in nurseries and more nurseries are joining us every day – and that's absolutely critical, to get the children when they're two changes their life forever and changes their body composition. The Scottish Government has written to all schools, nurseries, secondaries, universities, colleges, many workplaces, asking them to do The Daily Mile and hoping that this will take the burden from the NHS (National Health Service), because its industrial quantities of children doing The Daily Mile every day. If you're a Daily Mile school you don't have 66 per cent of unfit children, you have hardly any, perhaps the non-attenders, almost every child is fit in a Daily Mile school.

We have a handful of high schools who are trying it out in their own way and we need them to come up with a solution for us, because it's more challenging for a number of reasons in high school. As you said, for example, in primary it works best at the time of a teacher's choosing, so if you timetable it closely then people miss their slot – either it's raining or something happens in the school – and then they don't get out. So, in practice, if teachers decide when to go out then they'll go out most days. But we need a solution for high schools.

JE: Elaine Wyllie says the Daily Mile team would love to support Australian schools who want to get involved. And, she has special request for the organisers of the 2018 Commonwealth Games!

EW: You have the Gold Coast (Commonwealth) Games coming up. Our school at St Ninians was the link school for Scotland with the Gold Coast and we linked with

Coolangatta and I would love to see Australian children who've been doing The Daily Mile (this is a big ask) doing a Daily Mile at the Opening Ceremony of the Gold Coast Games. I think that would be an advance legacy for the Gold Coast Games and would engage children, not after the Games have gone, but in advance so that children in schools were fit and healthy and doing their Daily Mile and were able to go onto that lovely track on the Gold Coast and do The Daily Mile in front of the world!

That's all for this episode, to keep listening or to download all of our podcasts for free just visit [acer.ac/teacheritunes \(https://itunes.apple.com/au/podcast/teacher-magazine-acer/id899419616?mt=2\)](https://itunes.apple.com/au/podcast/teacher-magazine-acer/id899419616?mt=2) or you can head to [soundcloud.com/teacher-ACER \(http://soundcloud.com/teacher-ACER\)](http://soundcloud.com/teacher-ACER). You'll find more information about the programs we've talked about today in the full transcript of this episode at [teachermagazine.com.au \(http://www.teachermagazine.com.au\)](http://www.teachermagazine.com.au). That's also where you can access the latest articles, videos and infographics for free.

References

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