

Speaker 1 ([00:00](#)):

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Kevin Gregory (host) ([00:49](#)):

Hello, and welcome back to the HD Insights Podcast. I'm Kevin Gregory, Director of Education and communications for the Huntington Study Group. On this episode, I spoke with Brendan McLaren from Monash University in Melbourne, Australia. Brendan, at the time of this podcast recording anyways, is a doctor of psychology candidates specializing in clinical neuro psychology, which we'll get into more throughout the episode. Brendan recently presented a research abstract at the annual meeting of the Huntington Study Group on how a mobile app based assessment shows that less physical activity and longer time in bed associated with poor cognitive functioning in pre manifest and early manifest Huntington's disease. It's a really interesting look at these two areas which don't have much in the way of prior research. And it combines the use of some popular and well known technology. So with that, let's get right into this episode of the HD insights podcast.

Kevin Gregory (host) ([01:48](#)):

I'm joined now by Brendan McLaren, for this episode of The HD Insights Podcast. And, Brendan, thank you so much for joining us today.

Brendan McLaren (Guest) ([01:56](#)):

No problem, Kevin, thank you so much for having me on. And also, I wanted to say just thank you for the podcast in general and the work to bring useful information and I guess cutting edge research and so on to the community more broadly. I think it's very important that something such as this podcast is available.

Kevin Gregory (host) ([02:16](#)):

It was our pleasure and speaking of research, that was one of the reasons that we wanted to have you on is because you recently presented an abstract for work that you have been doing at the HSG annual meeting that was held virtually back in October. And I found the topic of it and some of the work and what was reported very interesting and I think the audience will like it as well. So, a lot of that research centered around the impact of physical activity, and bedtime or sleep as it impacts patients with Huntington's disease. So I guess why don't we start there, if you can give just a very brief background on what the nature of that research effort was and how it kind of got started for you?

Brendan McLaren (Guest) ([03:07](#)):

Sure. So I guess maybe with where it started, was this research that we did was part of my PhD thesis, essentially slightly different than a PhD thesis. And the aspect of looking at lifestyle factors, especially exercise and sleep, is just something I'm personally very interested in. And I see as being very important, generally, for everybody, not just people with Huntington's disease, but generally. And so that was something that I wanted to bring in to the research that I was doing. Especially because when you look a bit more broadly, at the research literature, in the general population, or outside of HD, there is a good

amount of research that would say if you exercise regularly, or if you sleep well, it's going to benefit the way that you think, the next day or during the week.

Brendan McLaren (Guest) ([04:00](#)):

And I noticed that really, the amount of research for Huntington's disease in that area is quite small. And so it means that perhaps clinicians don't necessarily have a really strong research base to give recommendations to patients. And that was something that I wanted to help with and provide a bit more strong information on.

Kevin Gregory (host) ([04:23](#)):

So the research that you did for this project, I noticed that there's when it comes to risk factors for other types of diseases like Alzheimer's or Parkinson's, there's some correlations between physical activity and impaired sleep. But like you said, it hasn't really been studied in folks that have Huntington's disease. Have you had experience with those other diseases? And that or was that just something that you kind of use as a benchmark or found as you were going through the project?

Brendan McLaren (Guest) ([05:01](#)):

It was more so something that I noticed when I was doing the reading and planning my project and thinking about what sort of things I could measure and investigate. I noticed that really, yeah, there was good evidence to suggest even with interventions for people with Alzheimer's disease or Parkinson's disease, that are changing their exercise habits or sleeping well would benefit their cognition, but there was just much less. There's a small amount of information in Huntington's disease to suggest that maybe there's some research saying that a later wake time, so waking later in the morning seems to associate with poorer cognitive functioning in Huntington's disease. And that's both in the pre manifest or preclinical stage and the clinical stage. Or a small amount of research on really one study just about it was all I could find the correlating physical activity to cognition in HD.

Brendan McLaren (Guest) ([05:55](#)):

So I was like, okay, there's something there and we would expect something, perhaps from the other literature out there, but just not enough. And I wanted to investigate that so that's what we're able to do. And also in a different way, a lot of the research out there would have maybe people wearing a Activity Monitor or completing some sort of sleep diary, and then going into the clinic and completing the cognitive tasks. Where we took an approach, where we had an app with cognitive tasks. So we're going to measure the two things together in people's homes to get a nice more, we might say ecological valid understanding of how those daily habits relate to how people are functioning with their thinking skills in their home.

Kevin Gregory (host) ([06:37](#)):

Can you talk about that a little bit more. So there's a heavy technology component to this as well. And I think that's one of the interesting things about this study is the fact that you're using or you used some tools and some wearables that are fairly common for people that are into exercise as part of their normal routine. But then there's also another technology, mobile technology element that you used for that. So can you talk about those?

Brendan McLaren (Guest) ([07:09](#)):

Absolutely. I'd be my pleasure to talk about that. So for my doctoral project, we developed a smartphone application, which we're calling HD-Mobile. And the app itself had three cognitive tasks. So three tests of thinking skills, that the participants in the study could complete these tests, we had them do it a few times over a week. For this study, we looked at their performance at the end of the week. And the app also, we included a sleep diary, so people could log their sleep, when they went to sleep, when they woke up how they slept and also questions about mood, and so on. And the focus for this was that we wanted, I guess, two main things. One was to make research or research participation more available to everybody, especially here in Australia, there's really a few places in the whole country, which is about the same size as the USA, where there's HD research being conducted or there's HD clinic.

Brendan McLaren (Guest) ([08:12](#)):

So we wanted to be able to collect information and be connected with people all over the country. So that was one of the focuses. And also the ability to just measure people in their home environments, and really understand how people are functioning in their home. And the use of those technologies, the Fitbits, which is always measuring how you're moving and sleeping. And the app where we could get regular measurements of thinking skills allowed us to just get more information and look at how people are functioning day to day instead of maybe once a year in a clinic visit.

Kevin Gregory (host) ([08:45](#)):

So the development of that mobile app that you talked about the HD-Mobile, how intense of a project was that? Was that a precursor to the study? Or was that actually part of the study and just a logical outcome of you want to research these particular activities, we need a mobile app customized specifically to what we're capturing?

Brendan McLaren (Guest) ([09:09](#)):

So it's a good question. It was all wrapped up in one and quite intense and somewhat scary as a student researcher. Because the first step, I guess as you hinted that was that we had to show that the cognitive tasks and everything in the app worked and was reliable. And then the second step after you show, okay, we can trust the measures that we're getting in terms of these cognitive tests. Once we've shown that, then you can pair those and see how they relate to the amount of calories the person is expending per day that we got from the Fitbit. So it was a step process in that we had to show the app worked first, before we could really study those relationships between the cognitive information from the app and people's exercise. But it was also all wrapped up into one project. So it's a little bit scary on my side, because if the cognitive task didn't work as expected, it would have made the other aspects of the research difficult to do.

Kevin Gregory (host) ([10:10](#)):

Now when you did the cognitive testing for the app, did you have to benchmark it against a control group and potential patients or did you just go in testing it with participants or study subjects.

Brendan McLaren (Guest) ([10:26](#)):

So we benchmarked both against healthy controls. So we had our participants from the HD community, who graciously gave their time. And then we also had some healthy control participants who are also terrific for us. And then there was a group of our participants with the gene for Huntington's disease that were also involved in Enroll-HD, which I guess some of the audience might know about, which is a

large international study where people come once a year. And as part of that visit to the clinic, they do some cognitive tasks. So we're able to compare how the people in our HD group were performing against healthy controls. And we're also able to run some correlations between how our HD group were performing on the app versus how they're performing on some in person tests as part of their Enroll-HD participation.

Kevin Gregory (host) ([11:21](#)):

Can you talk about the population, the participant population? How many people were able to enroll in the study? Did you hit your enrollment targets? And did you have any issues finding people interested in doing this? Or I guess the other part of the question would be to, because of the sensors and collecting the data constantly, did you have privacy concerns that you had to address as well?

Brendan McLaren (Guest) ([11:50](#)):

So let's go. In some ways, we would have loved, you can... Would always want more participants, I suppose. In terms of recruitment, we did find it quite easy to get people interested, especially as we had people... We have a database or a group of people that participate in our research out of Monash University, and often times, they may be interested in a study, but they can't travel to Monash University, because they leave a few hours away. So we had a great uptake in terms of people wanting to participate, because they could. It didn't matter if they lived 1000 kilometers away, they could be involved. And even through Facebook recruitment, we're able to get people involved and interested in that way.

Brendan McLaren (Guest) ([12:36](#)):

The numbers are a little bit small, because we needed or had people wearing a Fitbit, we needed to mail those out to people and get them back. So that was actually the limiting factor in terms of our recruitment, and not so much that keenness or interest in people being involved and wanting to try this app and see how it worked. Which I guess answers the first part of the questionnaire hopefully. In terms of privacy, that was something that obviously you paid a lot of attention to, and worked very hard on. In our lab at Monash University, my supervisor, Julie Stout has worked a lot in clinical trials, and also using digital means of conducting cognitive assessment. And that was something that we're really quite well placed to do in terms of the security of the data, and the level of encryption and so on, that we used to keep people's data and privacy safe.

Brendan McLaren (Guest) ([13:31](#)):

So it's always a consideration when you're doing this type of work. But it was something that we're quite confident and quite experienced in and we're able to ensure that the data would be safe and very difficult to get hold of if you weren't part of the team.

Kevin Gregory (host) ([13:45](#)):

Yeah, that makes sense. Now, in terms of participants that may have been on treatments for their symptoms, were you looking for... Did you make it exclusive to people who were not on treatments? Or did you separate out results by populations that may be on chorea medications or other types of treatments?

Brendan McLaren (Guest) ([14:11](#)):

Sure. So for this study, one of the main criteria was just that people wouldn't or currently be in a clinical trial. So that was the main factor that we're focusing on. In terms of that, the area of your question you have there. So, we mainly focused on that. And if people were on some medications for depression or for some other things then they're still welcome to come into the study.

Kevin Gregory (host) ([14:38](#)):

And in terms of, I'm just curious because this is, in some aspects is it's kind of a sleep study. But I think the positive for you is that, you didn't have to have somebody come in and actually spend time sleeping in a lab. Did you find that to be more representative of what the the participant would experience in real life and how it would impact them, would you say?

Brendan McLaren (Guest) ([15:09](#)):

Yeah, I believe so. And that was a focus of what we're trying to do in terms of we're wanting to understand how people are functioning in their day to day life. There's always a trade off, I suppose in terms of when people come into the lab, you connect them up into all the most amazing technology that can measure heart rates and brain electrical signals, and so on and get really, really detailed information, but they're not sleeping in their own bed. Whereas if you do it at home, you don't necessarily have that level of precision, but you are measuring people in their day to day life. And that was something that were just really, really interested in how people actually functioning in their home and in their community. And so yeah, we're able to do that and collect all this information without needing to see people.

Kevin Gregory (host) ([15:56](#)):

And so I guess my question in terms of the results obviously if you can talk about your findings in general. But also were there any outcomes or findings that surprised you that you weren't necessarily expecting, or that you didn't think would factor in as much as they may have?

Brendan McLaren (Guest) ([16:20](#)):

Yeah, so I guess we'll start with the main findings. Generally, we found as a kind of more simple way to put it would be that, if you're sleeping well and have healthy sleep habits, and you're getting a good amount of exercise, we're finding that, that tended to associate with better cognitive performance. So we didn't have any intervention so we can't say for sure if you exercise you will improve your cognition. But we found, for example, the participants who were expending more calories during the day, were performing better on one of our cognitive tasks, which tested working memory and decision making.

Brendan McLaren (Guest) ([16:58](#)):

And we found that our participants who were spending more time in bed, which we measured as the time from when you decide to go to sleep to when you decide to wake up. So you might wake up in the morning and decide, "No, I need more sleep," obviously go a little bit longer. At that point where you say, Okay, I'm getting up was a measure of time in bed. And those that were spending more time in bed, were performing a little bit worse on measure a visual memory that we had on the smartphone application. So that were the two main findings that we had, which we expected, we expected that may be the better sleep habits, and the better physical activity habits would relate to better cognition.

Brendan McLaren (Guest) ([17:42](#)):

But what I was expecting would be a little bit more interaction between the sleep and physical activity. So we're looking to see if, for example, you had good exercise habits, you're exercising a lot between the week, you would expect that might benefit your cognition, but maybe if you slept poorly, that would kind of undo that, or some other way of looking at those results. And we didn't find really any interaction between the sleep habits and the physical activity habits, at least with the measures that we had.

Kevin Gregory (host) ([18:15](#)):

That's interesting. So let me ask you this, did you identify, I guess, what I would call a sweet spot? Because typically, there's a recommended amount of sleep per night for optimal health functions. And so, you kind of would think that normally, well, if I'm able to get an extra hour of sleep, that's good, I'm going to be sharp, I'm going to perform better. But what you're saying is that, that may not necessarily be the case, right?

Brendan McLaren (Guest) ([18:49](#)):

Yeah. There'd always be, we didn't 100% identify a sweet spot. But what we did find was that, our group with a clinically manifest, Huntington's disease, tended to spend more time in bed than the other two groups. And this is reflected in some other research that is out there, our two other studies that we looked at, that showed that the, I think might have been manifest, or those two groups may be connected that, the HD group tended to wake up later in the morning. So, there would be a sweet spot, but more is not always better, I think, would be my response there where, if you are staying in bed longer or sleeping longer at some point, that may not be beneficial.

Brendan McLaren (Guest) ([19:36](#)):

And to just go a little bit further with that, we don't know yet because we're in the early days of this research, but my idea or my thought here is that we do know that sleep disturbance is quite common in Huntington's disease. So my thought was that potentially the manifest or the group with clinical HD, sleeping for longer or spending more time in bed, maybe related to sleep disturbance. So you and I would know everyone be familiar with when you have a bad night sleep for whatever reason, you tend to want to sleep for a bit longer in the morning so you can feel sufficiently rested. So I'd imagine there's some sort of interplay there, where not sleeping while during the night may make you want to sleep a bit longer in the morning, which would indicate that treatments for sleep disturbances would most likely be beneficial in HD for cognitive functioning.

Kevin Gregory (host) ([20:27](#)):

Yeah I get what you're saying that that makes more sense. I would agree. Let me ask you this, going back to the HD-Mobile cognitive test, can you talk through the decision making on? Because I've seen an image of that from the poster that you presented and I'm just curious, what does that entail? What is the person doing in that part of the test?

Brendan McLaren (Guest) ([20:52](#)):

Okay, sure. In some ways, it's a straightforward task in terms of what you're doing, but there's a little bit going on there. So in the task, what will happen is on the smartphone screen a bunch of what we call snowflakes, or dots, you can call them really well sharp on the smartphone screen. And there's a simple question that the participant is given, which is, do you think there are a few or many snowflakes? And based off how many dots are on the screen, you have to make the choice between the two, few or

many, which you press a button on smartphone screen. So the task involves the person learning from feedback. So when you start the task, you don't know what the cutoff is, for few or many.

Brendan McLaren (Guest) ([21:34](#)):

If you choose few, and you're right, you get a smiley face, if you choose few and you're wrong, you get a sad face. So the task is able to assess how people learn from feedback, and how well they're able to adjust their decisions. But it also looks at a variety of other bits of information, such as, how fast people respond, and how much information or how long they want to look at those thoughts before they make a decision. So we can look at some really basic answers in terms of how often were you correct. And we can also really delve in with some mathematical modeling, which I did elsewhere in my thesis, which can try to understand how much information a person wants before they make a decision, and also how fast they can process the information, the visual information from the task.

Kevin Gregory (host) ([22:26](#)):

All right, yeah, that's fascinating. Because I seen the picture with the snowflakes on it, and the frown face for the incorrect, but I didn't necessarily know, okay, what are you testing in this, the actual interaction? So I appreciate that explanation. What was it, in terms of the participants was it a group of people that you would describe as easily adaptable to technology? Or Were very familiar with technology? Or did you have a mix of people that don't care for smartphones? Or aren't big adapters of that sort of technology?

Brendan McLaren (Guest) ([23:12](#)):

Yeah, good question and an important question. Because in terms of wanting to roll out this sort of technology, you do need to be aware that there may be some people who aren't so keen on doing these things on their smartphones. So there may have been some self selection, so we contact people and ask them to be involved in our research. And if they don't like the sound of doing things on their smartphone or wearing a Fitbit, they may well say no. And same with Facebook ads for people that are more comfortable with that, and more likely to respond and asked to participate. So there is that element.

Brendan McLaren (Guest) ([23:44](#)):

Although there's, if I could sidetrack just for a moment and mention something that actually I think was quite important was that, we didn't develop the app in the lab by ourselves. We actually met with these amazing people from the local Huntington's disease community in Melbourne. We had a series of four different meetings where we invited people who were manifest for Huntington's disease, pre manifest, even family members. And we presented that to them and our idea for the research. And we actually got them to give feedback on our whole protocol, not just HD-Mobile, but the use of Fitbits, and so on.

Brendan McLaren (Guest) ([24:20](#)):

So we were able to go in and chat with people from the community and find out how could we design this app or present the study in a way that would be acceptable to the most amount of people from the community. So that was something that we're very focused on and the help that they gave us was just absolutely amazing, actually. And in the end, we had no attrition from the whole entire study whatsoever. So that showed us I think that, the approach was quite acceptable to people and not overly burdensome, and not overly difficult. I think that's one of the major achievements that we had throughout the whole research process.

Kevin Gregory (host) ([24:59](#)):

Oh, wow, that's fantastic. And that's, I mean, that's invaluable information to share for other people looking to do studies with that population, as get that input in that buy in upfront.

Brendan McLaren (Guest) ([25:14](#)):

100%. And we changed ours. We had questionnaires that we wanted to use, but the people in our group, were like, "These questions are too long in this questionnaire and it might be difficult," and so on. And I would ask for how much time per day would you be willing to give that... Our lab, we obviously have a lot of many decades of experience, but around doing research and HD, but there's absolutely nothing like going directly to the source and just talking to the people that you want to work with and getting their input. I think we should be doing more of it actually.

Kevin Gregory (host) ([25:47](#)):

Absolutely. Now, in terms of the research project, I know you collaborated with a number of other people, are there some that you would like to specifically call out?

Brendan McLaren (Guest) ([25:59](#)):

Yes. So I was working with Professor Julie Stout as my main supervisor who is absolutely invaluable. And also Dr. Sophie Andrews, and Professor Mark Bellgrove who're my main supervisors. Sophie has moved from Monash University, she's used to be there and Marks at Monash as well. And a really big thank you to Ricky Romeu from Indiana University in Bloomington. He worked on the mathematical modeling of that decision making task we're talking about. So, that work that he did with his hierarchical Bayesian modeling is so far outside of my wheelhouse, I could never could have done it. But we're able to find some really, really useful information out of that work. So I always like to thank him for his participation.

Kevin Gregory (host) ([26:49](#)):

And so I guess the last thing I'd want to ask you about this specific research is, what are the next steps? Are there paths that you're already pursuing as an outcome of these results? Or are there specific recommendations that you think are valuable for someone to take the next step on? What does the future hold I guess?

Brendan McLaren (Guest) ([27:13](#)):

So, yeah, the future holds that we should, I think it's important for us to keep moving in this direction, and make use of these apps and these wearable technologies to better understand the relationships between just day to day sleep and physical activity habits, and also cognitive functioning. And one of the main recommendations that we had was that, okay, we found that physical activity levels seem to associate with cognitive functioning. And our work and some work of others seems to show that sleep timing and when you're waking up is important for cognitive functioning. So these become factors that are definitely worthwhile looking at or incorporating in interventions that are to follow, especially around sleep, timing, and so on.

Brendan McLaren (Guest) ([28:02](#)):

So they are two of the main suggestions that we'd have that we want to do next. And another big one would be, my study started five years ago, so 2015. And then the Fitbit that we used was reasonably cutting edge. But now, the wearable technologies in terms of measuring physical activity and sleep have

advanced a lot more. And I think it'd be really beneficial for us to start making use of the ability to measure, there's some wearables that can measure I think, EEG signals from the brain while you're sleeping. And the new technologies measure heart rate, and all sorts of other things. I think those would be actually really useful information to have, and to see how they interact with cognitive functioning as well.

Speaker 1 ([28:49](#)):

We'll return to the interview on the HD Insights Podcast in a moment. We hope that you're enjoying this episode. As a nonprofit organization, the Huntington Study Group relies on the generous support from the community and listeners like you to continue bringing you in depth content on HD, like this podcast series. If you like what you're hearing and are interested in supporting HD Insights through a grant or donation, please contact us through our email address [info@hsglimited.org](mailto:info@hsglimited.org). Or by calling toll free at 1-800-487-7671. We greatly appreciate your support. And now back to our episode.

Kevin Gregory (host) ([29:42](#)):

Again, we're here on the HD Insights Podcast with Brendan McLaren. And, Brendan, I want to switch gears now. I mean, this has been a fascinating conversation about the research work you're doing. But I do want to spend some time letting our audience get to know you a little bit more. So where I want to start is something that you let off the podcast with, which was you have kind of an innate interest in physical activity and measuring yourself when we talked about Fitbits and the monitoring technology. Is there a specific sport or activity that you're into? What kind of drove that connection for you?

Brendan McLaren (Guest) ([30:25](#)):

I guess I've always been physically active. And like being in the gym from a young age, and for the last, gosh, 10 years now, I've been training in Brazilian Jiu-Jitsu. So a grappling based martial art, which I'm quite passionate about. And also, I taught during my, PhD, I was teaching the martial art as well. And I put myself through university or college by working as a personal trainer and a fitness instructor. So just from that side, I've always had that interest in physical activity and being healthy and was able to see the benefits that has to people. And that became something that very naturally, I just wanted to bring into the research that I was doing.

Kevin Gregory (host) ([31:08](#)):

All right. So then stepping back a little bit, what motivated you to get into this type of research? Or Huntington's disease specifically, certainly is of interest to our audience. But just kind of getting into this line of research within neurology itself.

Brendan McLaren (Guest) ([31:30](#)):

Really to be researching Huntington's disease was something I fell into, essentially. So I did a degree in biological sciences as my first degree. And then I was interested in that, but it never was so interesting. It didn't grab me enough that I wanted to really continue with that as a career or to do a PhD in. So I was supposed to take stock of my life at one point and think, okay, if this isn't what I want to do, what do I want to do? And then I really realized that psychology was what I wanted to study and I didn't know why I didn't study in the first place.

Brendan McLaren (Guest) ([32:07](#)):

So I launched into that, did a degree in psychology and here in Australia, in our fourth year, you go into like what we call an honors program, where you do a research project, and you kind of just get placed really, with a supervisor and that was where I met Professor Julie Stout. And her lab study Huntington's disease, which I didn't really know anything about HD at that point. And once I came into that lab and saw the amazing work that was being done, then I was like, wow this is really interesting and I want to continue studying this. And so I dove into the doctorate and committed to a four or five year study of Huntington's disease.

Kevin Gregory (host) ([32:46](#)):

And you mentioned this research was part of your thesis. So where do you stand at the moment? Has that been accepted? Are you still waiting on a response? How soon before it's Dr. Brendan?

Brendan McLaren (Guest) ([33:03](#)):

So it's all completed now. I think last week, I received an email back saying that the thesis had been assessed by the reviewers and that had passed. So I think we're in the paperwork stage now. I need to just do some small edits to the thesis, and then that should go through and maybe in January, I think I'll get to graduate. So it's almost almost done and almost Dr. Brendan.

Kevin Gregory (host) ([33:26](#)):

Well, very nice. Well, congratulations on that. And so what else do you have on your plate right now? Are there other projects kind of separate from this? Is it teaching? Is it just more research?

Brendan McLaren (Guest) ([33:40](#)):

For me at the moment, a lot of teaching. So my other passion other than doing this research, and so on is teaching so I really love to teach. At the moment, while I figure out my life post finishing the doctorate, I'm doing quite a lot of teaching, and also looking at doing clinical work. So in the future, I'd love to maybe have a mix of doing some clinical work where I can weave in research, feature research, and also continue to teach and share my knowledge with the researchers and clinicians that are coming through.

Kevin Gregory (host) ([34:13](#)):

And so you're kind of still in that early stage, career wise, I would say. So, what advice would you give to somebody who's maybe just going into postgraduate or into college and is interested in getting into research? What are the lessons learned that you have, that you would offer up?

Brendan McLaren (Guest) ([34:34](#)):

Terrific question. It's so fresh, it almost feels like I need more reflection to go on. I think something key I think will go with in terms of starting a research project and getting into that is it's a long process. It can take a lot of years and things can go wrong. So one thing is stay calm and keep going. There's definitely times in my project where things weren't going well and it got difficult. So something that's really important, if you're going to go into the research project is to make sure that a large chunk of the research project is something that's really, really interesting for you.

Brendan McLaren (Guest) ([35:13](#)):

I was able to weave in the sleep and physical activity stuff into my project. And that always kept me going and the other element that also sold me on wanting to be my project was the technological side of

thing and being able to use technology to get in touch with more people and collect more really relevant and ecological valid data. But I think if I didn't have those elements, or those factors of the project that I was really interested in, then when things started going wrong, as they often do, any researcher, student researcher or researcher who was trying to do research in the year of COVID, would know how things can just change.

Brendan McLaren (Guest) ([35:51](#)):

If you don't have the element that you're really interested in, and that keeps you going, I think it makes it hard when things go wrong. So that would be a major tip that I'd have actually. Make sure your research project is interesting to you and it's not just something that you agree to do to get the degree at the end or the doctor title at the end.

Kevin Gregory (host) ([36:13](#)):

All right, that's great advice. And you mentioned something that I wanted to ask, just because of the timeliness of it is, what impact COVID may have had on your research specifically this project, how much of it actually you mentioned five years ago, he started it, but how much of it overlapped a lot of these shutdowns and the impact from the pandemic? And what has post study and with teaching, how has that changed things for you, in terms of kind of functioning in this COVID world that we're going through right now?

Brendan McLaren (Guest) ([36:49](#)):

I was fortunate, very fortunate to be able to sail through 2020 and the lockdowns with really minimal impact to myself. So my research had completed so I'd done all the recruitment, and was really just in the writing up stage, and got forced to do that from home because we couldn't go to campus anymore. And I found out that I love that, I actually really loved working from home and having my cat sit next to me all day long, and being able to see more of my fiancée and so on. So I was very fortunate that it didn't impact me. But I think if it had come a little bit earlier, then I would have seen really minimal impact on my study, just because all the studies that were running it at my uni that required people to come in had to pause. And my research, didn't need that.

Brendan McLaren (Guest) ([37:41](#)):

And even there was studying being a switch to some of the other researchers trying to use or looking at using my app so that they could collect some cognitive data without needing people to come in. So I was very fortunate, it didn't impact me much other than making me more keen for working from home. On the teaching side of things, the program I was teaching too was also online. So we were actually really well placed when everything shifted over to teaching online because we were already doing that in the program that I was teaching into. So I was very fortunate and things didn't really impact me at all, somehow.

Kevin Gregory (host) ([38:20](#)):

That is fortunate, for sure. Well, Brendan, I really appreciate your time and being available to join us for the HD Insights Podcast. It's been an absolute pleasure chatting with you about this research and I hope people get a chance to take a look at it. Is there somewhere, is there a website or there's somewhere they can go to learn more about what you're doing?

Brendan McLaren (Guest) ([38:44](#)):

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Good question. Probably should have come prepared with something for that. May have to might be worth emailing something through to you. Or I guess my email address might be a good one, which is Brendan, B-R-E-N-D-A-N .McLaren, M-C-L-A-R-E-N@monash.edu if people would have any questions about the research and wanting to know any more, and maybe I'll make available the website, just the landing page for all that, might be a good way to go as well.

Kevin Gregory (host) ([39:13](#)):

All right, excellent. Yes. And for our listeners, we'll post that for you on the podcast description page, so check that out. And again, Brendan, thank you so much it was a pleasure.

Brendan McLaren (Guest) ([39:29](#)):

Thank you. Thank you, Kevin. I appreciate you. And I appreciate the time and again, also appreciate the work that you're doing with this podcast. This is important and I'm glad to say.

Kevin Gregory (host) ([39:41](#)):

My thanks again to Brendan McLaren, for joining us on the HD Insights Podcast. And for you our dedicated listeners for your continued interest in the series. At the end of our interview, Brendan mentioned a website that may be helpful in learning more about the research being done out of Monash. That website is [hrgv.org.au/research/labs/CCN.html](http://hrgv.org.au/research/labs/CCN.html). We've also included that URL in the description for this podcast episode. So until next time, stay safe, be well, and we look forward to bringing you the next episode of The HD Insights Podcast.

Speaker 1 ([40:29](#)):

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