DANNY LENNON: Today I'm delighted to welcome back Dr Bryan Chung to the podcast who was on the show probably four years ago at this point nearly where we talked all about evidence based practice and that had been key aspect that he tries to communicate to people and to educate people on of how to be better with dealing with evidence.

And that landscape has changed drastically over the past two years. I think the term evidence base has grown in massive popularity to at least in some circles, the potential for it to become a buzzword rather than true evidence being practice being followed or even understood. And so Bryan's education in more recent has centered around a couple of things. One of those being, how do we get people to be better able to interact with research? So if they are a clinician, if they are a nutritionist, if they are coach or if they are anyone have any sort who wants to be able to look to the research to be able to answer some questions and then to apply that into practice, how do they go number one, about being able to interact with peer reviewed research. And number two, what is the best way to do so to make sure that it's pragmatic and useful for your practice and avoid it being overwhelming because oftentimes I think that's all it can happen. We could be

overwhelmed by the thought of not only how much research is out there, but how to best integrate that and how to use it to make decisions.

And so in this episode I wanted to talk to Bryan about some of the ways he's trying to communicate some of these key ideas to people who want to be better able to interact with research and science and then to be able to use it to have a truly evidence based practice in the most accurate sense of the word. For those you unaware by day Bryan is a hand surgeon and works in plastics as well as being a Ph. D research designer and then also runs a critical masses website where he talks about a lot of the concepts where we are going to address today.

If you want to get the show notes to this particular episode, they're going to be over at sigmanutrition.com/episode273. They are all link up to a transcript to this episode. More of linked straight to anything we mentioned throughout the episode and where you can find Bryan's work online at sigmanutrition.com/episode273 and so that's it. For the moment let's jump into my conversation with doctor Bryan Chung.

Bryan welcome back to the show after, I guess it quite a few years now since we had episode, your first appearance on the show. So it's good to be chatting again.

BRYAN CHUNG: Yeah, thanks for having me back.

DANNY LENNON: As we'd kind of mentioned before we hit record here. There's been a lot that has probably changed in the intervening years and probably speaks to a lot of the conversation will end up getting into. So maybe with relation to some of the projects that you've got ongoing now that I think we'll kind of set the stage for some of the conversation I want to have. Maybe give people an overview of some of the things that are important to know that will kind of give some context for where this conversation is going.

BRYAN CHUNG: Sure. For the listeners that don't know anything about where I came from, cause I kind of vanished for awhile. I used to run a blog called evidence based medicines. And that blog I started in 2000 because I

didn't feel like science was really, or research or evidence or whatever you want to call it was really being considered in a lot of the products and services that were being offered at the time.

So I started that blog as a counter-current to the trends that I was seeing in terms of product advertising and service advertising and claims that we're making about what certain things could and could not do. And now I feel like we have swung the other way where the catchphrase of evidence based practice has been essentially cooped as a marketing tool. And it's not it's so foreign to think of it as a way to market yourself to say, well, I'm evidence based versus I'm not evidence based. And those two camps I think especially in fitness nutrition actually do exist.

There are people who would say that they are anti evident. And I think the reason that's happening is because the holders of research knowledge and the people who are making the most noise about evidence based practice have now in essentially started using research as a bit of a weapon. And I say that – I'm actually using that term pretty deliberately because I feel like it's kind of like a bludgeoning type of weapon and it's like your experience and your clients are not necessarily unique and therefore we have to rely on the objectivity, "objectivity" of research to determine how it is that you are going to practice in the future. And this is a theme that runs deep in a lot of health professions and is a trend that has come and gone and come and gone and has probably come back again with respect to how evidence based practice actually works.

And if you go back and you read Gordon Guides initial framework for evidence based practice, that's not what he's talking about. And so evidence based practice is kind of the idea that research informs decision making as much as your clinical experience and your clinical knowledge as well as the circumstances of the patient or the client that you're working with.

So every answer, every decision is slightly different because every person is slightly different and every decision is also slightly different because your experience changes with every decision that you

make. The research changes over time but not necessarily from decision to decision because a new study would have to come out to change sort of the global knowledge. And so we have now swung over to what I kind of think of as like research dictated practice, which is something that turns a lot of people off because it starts to ignore certain realities of practice that are present and can't be ignored. And so being asked to ignore them is counterproductive.

So I archived evidence based fitness because I don't think that it's doing anybody any good anymore to just write about studies and say why this study is good or why the study is bad because it's not giving anybody any tools to really put research into context of their practice. And it's something that I thought about as it was waning sort of just started to wane 2015, 2016 and eventually just petered out in 2017 and 18. And so as it was doing that, I was really considering what my positioning would be like in the future. And I don't think that a blog or a research review cuts it anymore. Like I think that now you actually do need to invest a little bit of it time and effort and energy into being able to figure this stuff out more on your own because nobody knows your clients better than you do and nobody knows your experience better than you do.

So in some ways nobody should know the type of research that informs your decisions like you do. And being able to develop that skill is now increasingly more important because the research that you read has a high --has a heavier weight than it used to have and so can't understand it then you're going to start depending on other people to make it important or not for you and that might not actually be the best scenario for your client who is ultimately the person that is sort of the most important.

DANNY LENNON: It's actually quite in line with some private conversations I've had recently that kind of touch on two aspects of that. First is within this sphere of not of, I suppose being over align on what are some of the big takeaways from research that we can classify as evidence based and not remembering the aspects around observing what we see with a client or a patient things within clinical practice, but also

beyond that even forgetting about the physiological underpinnings of some things. So it's the point where some people talking about being evidence based, but all they can point to is someone else who has told them a result of a meta analysis for example. And there's no other kind of critical thinking beyond that. And that kind of seeps into the second aspect which you also bring up Bryan of how do we, in order to really do this, having those skills to be able to engage with that primary research and take things that are useful in our own context for the people we're working with and it actually kind of reminded me of one of the lines that you had in one of our emails, I think from a few months back maybe it could have been September, October time. And it was a, you had a great line in there that essentially to the effect of you've launched a project to help people who have relationship problems or questions but with science.

BRYAN CHUNG: So that product or that project is called Dear Doctor Ninja and I won't get into why it's called Dear Doctor Ninja. Only to say that, you know, it could be any name and it would be just fine. So Dear Doctor Ninja so I've always liked the relationship advice column format. I am a relationship advice column junkie. I like reading them. They're fun. And so I thought wouldn't it be interesting to try a relationship advice column for people who have problems with like their science. Like what is science was your partner and you were having an argument with science, what would that look like? What would that advice look like? And a few like and some of the questions that have come through, I've actually been really interesting to answer in that light because ultimately it has the same underpinnings a little bit as evidence based fitness in that yeah, there are studies involved and yeah, I'll go into some of the studies and why they're good or not good. But I feel like what's missing from evidence based, what was missing from evidence base was this was the context in which the decisions were being made. And having somebody write in to Dear Doctor Ninja for advice means that they have to then put that whatever decision they're trying to make has to be put into some sort of context.

And so then it allows the answer to expand into something a little bit more specific and a little bit less like, here's the research and the research is good. And the research says the answer all the time because it doesn't always do that and it doesn't, it's not always a useful. That's the big thing. That's the big takeaway for Dear Doctor Ninja. The research isn't always useful. It might exist. And it's going to be, it will always be written as though it is useful because as a scientist, as a researcher, if you write a paper and at the end of it you say, this research is actually not that useful nobody will publish it.

So it will always be spun to say these are the benefits of following what we say. These are the take home messages that are going to affect how you do things. And that's a story that you're being told by the person who has a real reason to say that, that has really almost nothing to do with what it is that you do because of the way that it has to be sold. The way that that story has to be sold to the publisher is that it has to be sold as something useful.

So if that's what you take away from it and you just accept that, then you need to understand that your decision might not involve anything, any of the story that, that scientist is telling you. And I think one of the better questions that I've gotten at Dear Doctor Ninja is about mammograms actually and how there's a study that was done about how mammograms have a half a false positive rate.

So you can have a mammogram, um, and it can say you have a tumor and it can cause you to undergo procedures that you might not otherwise have needed to undergo if you either hadn't had the mammogram or somehow had your tumor detected in a different way. And so the question that was being posed was so do I get a mammogram or not because I don't want to undergo unnecessary harm. But also I would really like to know if I have breast cancer early because early treatment is still linked with better survival.

So how do you make that decision? So when you look at the study, the study says, well this is the false positive rate for mammograms and it's a little bit on the high side. So what, so and there's nothing wrong

with the study. Methodologically, statistically it's a pretty good study.

At the end of the day though, there's no better test to detect breast cancer than a mammogram. And that's one of like a great case example of how the research is there, but it's not actually useful to the decision that you're making. I think that's more important than saying this is a good study or this is a bad study because the context changes entirely the way that you use the study at the end of the day. And that's what's important.

What's important at the end of the day is that you are using the study or not using the study, choosing not to use it right, in the context of the decision or the problem or the challenge that you're having.

DANNY LENNON: Right. It comes down to what am I going to do with the outcome, either way or particular study. And so to me, this kind of is getting to whether this is for a practitioner or clinician or someone who is just looking into the research for their own reasons of number one, at an appoint you previously alluded to of sometimes it can be overwhelming to try and face into digging through research for reasons that we've may have heard from somewhere else particularly I see a lot of the time for practitioners, it's a case of seeing these people who are at the top of the field and engaging with research and these kind of this almost imposter syndrome of well, I'll never be able to do that. I don't have that ability to read through papers like that. So what can I even do? And then second from that, just the sheer volume of research we could be exposed to or papers that people are posting links to and saying this was a cool paper and so on. So that's maybe peace through four people not position what they can do. And there's kind of two aspects of this. One that builds off what you've just said, Bryan of being almost selective in how they go about engaging with certain papers because there's that risk of putting a lot of time into something and then at the end, again, it's not informing their practice or just reading mindlessly through papers because someone said it was interesting as opposed to having an actual purpose for it.

Can you maybe go through your thought process for practitioners who are trying to make that decision of well research I even put my effort into looking through and trying to engage with?

BRYAN CHUNG: This goes into the intentionality of what it is that you're doing. And I feel like fitness and nutrition is a great place to have the discussion because when you program for somebody, whether it's diet or workouts or a rehab you program with a purpose. So it's like, well what are you reading this for? Because if you don't know the answer to that and you, and it's just like, well I'm just reading this cause it's kind of like reading the newspaper. When you read the newspaper there's a few things in the newspaper that had an immediate effect on you and most of the stuffs in the newspaper there's really no effect on anything that you do say or behave otherwise.

So if you're just reading to browse because you're curious, then I think you should just say that's what you're doing and just do it if you're just reading research because you're curious and there's lots of value in being curious. Then go ahead and do that. And if you find something that you want to dive deep into, then that's the time to dive deep into it.

But if you don't know why you're reading something and it's just sort of this thing that you feel like you have to do, then maybe you shouldn't do it. Don't waste time on it yet. Find something that's worth challenging yourself more and then devote the time and energy to doing it. And figure out, well, what is the problem that I'm – what's the problem that I'm having that this paper is going to solve for me? If it turns out to be true or if it turns out not to be true, right? What's going to change? What would I change?

So if you have a research paper that says in I'll use Keto because it's lifting this year, right? If you have a research paper that says Keto is the best diet ever and you can't go Keto for whatever reason, then you should just don't have to even read the paper. Don't bother. Don't. If Keto is not an option for you, then don't bother. Right? Like if you're, vegetative, if you're a strict Vegan and you-- I can't imagine a Vegan Keto. I'm sure they exist out there, but if you can't do that, then don't worry. Don't even bother.

Don't bother going down that pathway because there's nothing at the end of that road for you.

DANNY LENNON: I suppose this whole process is because of the sheer amount of research we could expose ourselves to rather than trying to just jump in without any intention. The intention comes from being able to filter through these papers so that we can maybe look at a wide area, but bring that down to a few small number of papers, number one that we can actually deeply engaged with. But second that we can actually will hopefully make some or allow change to happen within practice or at least informed something we're doing.

So one end you just touched on it. If it's something that's going to be completely incompatible with what you as an individual can possibly do, then it's probably not worth the time because even if you do learn something, it's not going to be usable. On the other end, you would also wrote about how and I think this can be maybe a bigger trap for people to fall into is spending time on research that confirms something they already know. Can you maybe touch on the trap of doing that and why in a similar way, it's a kind of a fool's errand perhaps.

BRYAN CHUNG: Yeah. This is not necessarily the most popular viewpoint, but it's mine. So I think if you like, if this is kind of the, this is my response to people's response to a study that finds something that is exceedingly obvious and the comment is no, duh, right? And it's like, well, why did you even bother reading that? Why did you allow that to occupy any part of your attention if you already knew the answer? It's not going to change anything to do it. You already are doing it presumably and so your time is valuable, your effort is valuable, your energy is valuable. Just leave it alone and move on. Like it's not for you and it's okay for something not to be for you. You can walk away from that. I give you my full blessing to walk away. Right. Because it doesn't add anything to your knowledge. The example that I have for my own work is carpal tunnel surgery. I kind of feel like carpal tunnel surgery has gotten as good as it's going to get and there would need to be the only way carpal tunnel surgery could get better cause they

went from having a big long incision to a shorter incision to now the mini incision.

And the only way the carpal tunnel surgery is going to get any better is if there's no incision. That's the only paper that I would read about carpal tunnel surgery at this point. I would need to read a paper that's like zero incision carpal tunnel surgery and I'd be like, I'm on that. But until then there is nothing in the carpal tunnel literature that I need to read at all. And if it's a carpal tunnel paper, I'm moving on.

DANNY LENNON: This reminds me of a – I did a podcast with John Kaley [PH] who's a strength conditioning coach for many years, but a sports science researcher. He's published some really fascinating papers that have gone a lot of attention because of, again going against certain dogmas within training, periodization particularly and questioning things in that sphere. But we were talking more generally about science and skepticism and so on.

And one of the things he said, he talked about how he actively seeks out dissonance that once he's found that that's the place where he feels he needs to sit and wrestle with ideas and concepts as opposed to those areas where he's more comfortable with a a certain finding.

So seeking out where is that disconnect between his current beliefs and maybe something he's seeing and then spending time to actually work out is there something to this?

BRYAN CHUNG: I don't think it's a cognitive dissonance. I think it's an actual disagreement, like cognitive dissonance suggests to me that it's like, it's kind of just in your head that there's like an inconsistency that you see. And I think with true progress in evidence based practice and research usage or research interpretation and implementation is if some, if you see something that disagrees with what you do, that's not a cognitive dissonance, that's a disagreement. Because a cognitive dissonance would be like I perceive a conflict where there may or may not be what; the paper either or doesn't agree with you. That's it. There's no reason. Not really lot of shady gray areas there.

So for a paper to say, well, this one, this method is better than the method that you are using I think it's important that you look at that one because especially if it says it's better, then you have to define well what is better, is better what I'm looking for or is better what just they're looking for because often they're two different things. And if their thing comes out to be actually better than the next question is, do I need to change now. And that's where you have to go super deep at that point. And that's how a practice changes over time, right? You're not always going to be right. Something new is going to come along within your practice lifetime and you will eventually need to consider whether you're going to make the change and you might try on the change for a little while and see how it does and see how it shapes your experience and see how it sort of jives with everything that you do and maybe you will stay with it and maybe you won't stay with it. That's why it's called practice. Right?

So yeah I think that it is important to pay attention to this idea of disagreement because that's how you move forward because there's no moving forward if all you do is the same thing all the time. Right? So if – and it's okay to do the same thing all the time provided that what you are doing is kind of at the forefront of what's available.

So if there's nothing available beyond what it is that you're doing so we'll go back to the mammogram example. There's no other test that has a lower false positive rate than a mammogram right now that is feasible as a screening tool. So if there's no alternative, then you should just keep on going, just keep, you know, you sort of have to have to go in with eyes wide open. There is this risk and that something might come out false positive where you get the test that says you have breast cancer when you don't and you continue in that vein until something better comes along. And then when something better comes along then you have to make a new decision about whether or not you're going to give up what you've been doing, which is getting mammograms and getting a different kind of test. Right? And so the literature on mammograms right now has, there are a few articles on thermography where they just like

they say well tumors usually have a higher temperature because they're more vascular, there's more blood vessels inside the tumor so they should actually technically be hotter. So if we just look at the temperature of a breast then we should be able to find if there's a tumor in there or not. The problem with thermography is that it has a higher false positive rate than mammography. Right?

So there's disagreement in terms of well there is this new thing that you could do but it doesn't actually disagree with what you're currently doing because it's not actually better. So the idea that it is kind of, that it's – it's potentially less invasive there's no radiation involved. So there's a little bit of the pro on that end, but at the end of the day, whether or not you have radiation involved, what you really need is the answer of do I have breast cancer or not? And if it can't give you that answer as well as a mammogram, then there's no, you shouldn't change what you're doing.

DANNY LENNON: I did want to get into some, I suppose on a pragmatic side for people listening who are again in that camp that we talked about earlier who want to be true evidence based practitioners want to be able to as well as take control of some of this decision making that will help them either for themselves or for people they work with and I think for many practitioner statistics end of being the bane of their existence when it comes to engaging in research. What advice would you have on taking back some of the power let's say from statistics alone or at least the power that people feel statistics has over them when trying to accurately interpret research papers for themselves?

BRYAN CHUNG: Very rarely does a study fall down on statistics alone. It almost is insufficient. But the number of papers I would say that I have reviewed or written about on the blog or done peer review on that get rejected in some way, shape or form where there's an official rejection like I recommend rejection or casually because I've written on the blog, this is a horrible paper. It almost never comes down to the statistics. It just doesn't.

So it'll come down to issues with methods or issues with definition or issues with the research question. And there's so many things that you can look at in a research paper that will cause it to fall down, that you might actually never need to learn more than very basic statistics to come up again with the exception of a systematic review potentially even then it's very rare that it falls down on statistics alone that you already have the tools to see what's wrong with the paper. Like you actually already know how to do this. It's just that you've never been trained to look at it that way because what you've been told is that statistics are the most important part of the paper. And if you don't get this right, you're never going to be able to evaluate a paper. And I I think that is, that's a narrative that I used to tell people. I think out of potentially a little bit of insecurity maybe, I don't know. But the more I look at it, and especially after I started practicing as a surgeon and coming up against like well, what does evidence based practice really mean as a practitioner who has this level of responsibility. It definitely changed my perspective on what it is that I do and how it is that I look at a paper. And it wasn't until I looked back at everything that I realized, it's like, well I actually do understand most of this statistic stuff, but it almost never is the failing point of anything that I reject.

So then if that's the case, we have been teaching this all wrong and we are not actually focusing in on the parts that people can do right really easily without actually learning complicated mathematics or even probability. There is at some point a bit of a tiny wall that you have to run into where you're like, okay, you're just going to have to suck it up and learn it. But there's actually a really big distance between starting and running up against that wall and that curve is really steep in terms of how you can get better. It doesn't take nearly as much effort. What it takes is just learning to see the paper differently and seeing the story that's right behind the paper differently but once you can do that, then a lot of the mystique falls away. It's almost like the byline at evidence based fitness was something something against fitness mysticism. Because at that time it was all about doing what all the great people who are doing and not really considering some of the

physiology and basic science facts that we'd say, well that doesn't really make any sense. And now we've kind of run into the opposite wall which is this whole mysticism around statistics and research where you're being told, well there's this black box called statistics and if you don't understand the black box then you can't be part of this conversation. And so, but the reality is that that black box, that statistics black box is almost never the only thing that causes something to fail.

So if a study is going to fail, it will fail on multiple levels. Before you even hit the statistics part it will already have fallen down like 90% of the time.

DANNY LENNON: Sure. So maybe that says dig into it at least a couple of those pieces where it either can fall down or at least things that we can grapple with before even worrying about a deep statistical knowledge. One you've already mentioned just to in your last answer when you talked about the research question, and I know from reading your book also you talked through the importance of as a reader of a paper establishing what that research question actually is early on because that will kind of frame number one, the relevance of the paper but then your interpretation thereafter. And then from there looking through results, also trying to determine what is of – what is practically meaningful for us in the practice.

BRYAN CHUNG: The research question essentially has three parts. It tells you who is being studied, like who is the – who are the people of interest, what are we measuring and what are we doing to them? So you should be able to figure that out from reading the paper. And the thing that you will find is that every paper in the inch -- almost every paper in the introduction, we'll state that research question in some way, shape or form. And as you read the paper, that question of will morph because what they did and what they said they did are two different things. That's a huge red flag because being consistent is important. And as you go into the results section, the research question can change again because of what they actually did and what they actually found and how they spin it.

And so, and this goes into the importance of things like preregistration for clinical trials and all this stuff because there's this crisis now where people are publishing something that they'd never intended on finding in the first place. So that's a different conversation that we don't have to have to do. But the importance of finding that research question is big -- is one of the more essential parts of doing research appraisal because if you can find it and you can see it change, then that's automatically a red flag because it shouldn't change throughout the entire paper. And sometimes what you find is the research question that they are actually answering is not actually that important. And so then you can just throw that paper away at that point. You don't need to pay any unless you're really interested in the actual question that is being answered.

So the skill that needs to be developed is to not just take what the investigators say they're doing but to be able piece it out from what they actually did in terms of what they reported what they did in the method section, and then what they actually did which shows up in the results section. Right?

So sometimes you'll find there are inconsistencies between the methods and the results section. Right? So and where is the discussion being focused? Because often the discussion is being focused on the parts that are “significant”which may or may not have to do with the original question.

DANNY LENNON: Right. I think this also can prevent people getting quite frustrated because I have seen this quite a lot where people see a paper on a specific topic, they read through it and when they get to the end they kind of, they make some criticisms of how that paper isn't really that useful for anything pragmatic. But when you actually go and look at the paper, it makes sense because it wasn't set up to that. It was set up for a very specific research question to answer that and the paper may actually have done that, but because someone didn't try and establish what the question it was trying to answer, they end up becoming a bit disappointed when it doesn't have this big huge takeaway for practice at the end even

though it was never designed to do so. So it can kind of save some mental affect, I think, there too.

BRYAN CHUNG: Yeah and again this has to do with the culture of scientific publication, right? So the scientist has to publish something that looks like it's note worthy and they will spin it that way because that's where it gets them in so to speak. And we, you know, publication bias is a real thing. We know that it's a real thing that certain papers are more likely to be published than other papers and it's not necessarily to do with quality. So you need to understand that yeah you might be going into a paper. If you take the paper at face value of the way that it's written, then you're taking the spin at face value for what it's written. And that might not be what that paper is actually about because it's just spun that way and that's why that disconnect I think exists is because whoever is reading the papers taking the spin to heart and they're saying, well this paper is claiming that it is going to reveal something big and then at the end right doesn't, and that's a let down, but it's a let down because of the way the writer is cultured to write. And so it could be because the writers created this expectation in their writing to tell a story about what they've found that might, that is spun to have a higher significance than it might actually have. And then as the practitioner, you read it and you go, well, this is a huge let down because it doesn't match any of my experience and this seems like a piece of – it just seems insignificant or insubstantial. Right. And again that has, you know, when you go back and you, – at the end of the paper you're like, well that was really bloody obvious, then you have kind of wasted that little bit of time. Hopefully you didn't spend too much time on that. Right?

And that's where I think this whole idea of research being dictator versus research being partner comes into play where it's like there is this component where you need to understand that what you're reading, even in a research paper, what you're reading is a story. You're not actually reading what we would consider “objective truth”.

So we would like it to be very close to that. And there are parts of the paper, I think the methods and the

results section that are being, that are going to be closer to that because of just the way that those are the demands of the structure of those sections need to be. But the introduction and the discussion, those are stories. Those are – those can be spun any number of ways. So if you put too much stock into the introduction and the discussion and the conclusion, then you can very quickly become, you can quickly be led astray because those are free forms sections.

DANNY LENNON: So number one, if there were just a couple of things that you would want people to take away from this conversation, what would they be? And then off the back of it for those are interested in really digging in deeper, maybe let them know about some of the things you've got going on.

BRYAN CHUNG: I think the major thing that people need to start taking away from all of this is understand that you as a practitioner are already enough to look at a paper. You are allowed to be part of the conversation and you already kind of know how to do this. It's just you haven't necessarily looked at it that way before. So understanding that this is not necessarily a huge complex, intimidating thing that you have enough in you now today to start developing this skill that you don't need permission from somebody else to do it. You don't need someone to tell you necessarily even how to do it in the way that you think you need it. If you're looking critically at something and it doesn't make sense, it probably doesn't make sense if it just jars with you in some way. You will as you develop as, when you develop this skill, at the end of the day, papers just kind of feel raw when they're wrong. It's like that whole Malcolm Gladwell book where you know, artists can tell something's a forgery or not just my looking at it and they don't know what part of it is a forgery or why they think it's a forgery. They just know it is because they just feel it. Like the gestalt of the art just says this is not real. And as you develop that becomes part of the skill where you just feel like there's just something in here that's just not right, but you have to start somewhere. And those people didn't just sort of spring fully formed as those kinds of people with those kinds of skills.

So I think it's more important to understand that it's better to start now then to get in your own way and wait until you have permission from somebody else to do it. So you don't need that. The second thing I think is understanding like how to filter and to just basically develop a better radar for how to say no to the information that's coming at you because it's coming at you really fast. It's coming at you faster than it has ever come to anybody before that has come before you because of just the way everything has evolved; social media, the Internet. The access to information is no longer the problem, right?

So you can dig yourself really quickly into a hole if you just do it without understanding what it is that you're after and being able to say no to the stuff that you're not after is really important. And I think that's kind of the underlying message of that book that eventually will come out somewhere this year.

DANNY LENNON: For people who are interested in taking this further, what have you got going on that aids in this quest for them to be able to engage with these concepts better?

BRYAN CHUNG: Yeah, so I started an eight week mentorship which is pretty intensive. It's three sprint weeks with work in between sprint weeks. There's live video conferencing that's involved. There is a lot of deep work that's involved because I think the goal of the course is to kind of undo a lot of the brainwashing that has happened as a result of just sort of traditional educational methods with evidence based practice. So the program is called critical mass and the website is criticalmass.ninja. Hence Dear Doctor Ninja. And it's .ninja because .net, .com and all the other good ones were taken. So I just went like totally the other way and just pick something that nobody else would pick. And so that's essentially why it is that way. And Ninjas are just cool. So I used just like well that's what I – that's the one I'm going to go with. And so it's entries by application only. It's quite pricey. But I think that if you really want to go deep and you really want to change how you see research like in a completely different way then it's worth the time and the effort to do it. And I wouldn't suggest some people do it casually because it's really intensive. I've had one class go through already and it's a lot of

work. But at the same time, the feedback that I've gotten is that it's well worth it. So that makes me happy that not only it can I be a safe driver that people enjoy it. So that's good. Right?

DANNY LENNON: Right.

BRYAN CHUNG: So that's how that works. I think the next session we'll probably run in the summer or the fall of this year. I'm sort of focusing on developing that and a couple of other things further. I have to take care of this book which is going to come out hopefully later this month or in March. It just depends on the person who's doing the layout and design stuff. So yeah, because it is really meant to be seen as a print book and the PDF will be available for a very low price and the print book is actually also going to be pretty cheap I think. But it is meant to be, it laid out as a print book and I don't think the PDF quite does it justice. But that's just my opinion. But it is a faster way to get it. And if you, and I think if people decide they want to go with the PDF then they can decide later to buy the book and it still would be less than $20 American for that whole bundle. Right now you can download the first chapter for free off of criticalmass.ninja. So if people want to do that, they're more than welcome to do that. Is just a taster. So don't expect anything crazy and lightening in there.

DANNY LENNON: Perfect. For everyone listening I will link up to everything that Bryan just mentioned there and Bryan that brings us around to the final question that I always round the show on and you've been one of few people probably got it before. So I think given the length of time between I know how people's views and stuff changed so I'll throw it back to, and it's simply if you could advise people to do one thing each day that would have a positive impact on any area of their life, what would that one thing be?

BRYAN CHUNG: So I am going to say the one thing that you can do every day that makes you better is to get out of your own way. So again don't wait for permission and if you can start something, then start it. Don't delay. Don't think that you have to wait. Don't think, don't

wait until it's perfect. Don't wait until you have a reason. If you really want to start something, then just start. Figure out what it is that you need to do to start that thing. And the rest will eventually come into play. And every day you can start something that either builds on something that you did before or is something that you've been waiting to start. But don't wait to finish before you start.

DANNY LENNON: Bryan thank you so much for the conversation today. I have really enjoyed it and I've been enjoying your work as well. So thank you for coming and chatting through some of these concepts and it's been a pleasure.

BRYAN CHUNG: Thank you very much.