ADVENTURES IN BEHAVIOUR CHANGE - ALINE HOLZWARTH
(Katie Elliott & Aline Holzwarth)

My guest today is behavioural scientist, Aline Holzwarth. Aline is the Principal of the Center for Advanced Hindsight at Duke University. She's also the Head of Behavioural Science at Pattern Health, an evidence-based health technology platform.

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Aline Holzwarth, thank you so much for joining me today.

Thank you so much, Katie. It's such a pleasure to be here. Thanks for asking me on the show.

So can you tell us a little bit about what you do?

I'd love to. So I think of myself as an applied behavioural scientist. My background is in psychology and most of what I focus on on a day to day basis is doing research. And I sort of work with one foot in academia and one foot in the healthcare industry. And on the academic side, I am the Principal of the Center for Advanced Hindsight at Duke University, this is a behavioural science research lab. Our goal is to help people make better health and financial decisions based on what we learn through experimentation. And so most of what I do in that area is in digital health. And then on the healthcare industry side, I'm the Head of Behavioural Science at Pattern Health. This is an evidence-based health technology platform. Providers, physicians and care 'managers', if you will, use it to create care plans for their patients. And my role is to just make the platform more engaging and motivating, easy to use. And for that I just use everything I know from behavioural science. And I have to say, in full disclosure, Duke University is an investor and research partner with Pattern Health. My husband is also the Chief Technology Officer - we definitely mix work with pleasure. There's a joke that we're the literal marriage of behavioural science and technology.

I'm kind of curious to know that if you're a behavioural scientist, does that give you all sorts of hidden advantages in your relationships with people?

Relationships with friends, with... not so much co-workers, right? Because they're behavioural scientists as well. But yeah, I'd like to think so.

That would be so amusing. You could all be nudging one another to do things the whole time. I've never thought about that before.

Yeah right. It doesn't work when we're all nudging each other.

So there are limits, clearly. When you talk about digital health, what exactly do you mean?

When I talk about digital health, I really mean health. And digital health as a means of reaching patients and, you know, not just patients but everyone who could use a boost to their wellbeing. And a lot of the work I do just focuses on happiness and the wellbeing of everyone. You know, where can we get that boost? And so when I talk about digital health, the technology side of things is often as simple as, "how are we delivering this intervention? Are we saying, "Do these little challenges one a month and here's your reminder to do the challenge?" You know, let's say it's to go to sleep before 9:30 at night or something - you're trying to get better sleep or more sleep. And then we use the phone as a nudge to do that. And then we can also use that to track the intervention and say, "how is that working?" And of course, the way that healthcare is so connected nowadays with digital scales, activity trackers, wearables and so on - um, like we even have a magical pill box. It's a Bluetooth-enabled pillbox that can remind you to take your medications, that can sing a song if you've forgotten, it can send a text to your granddaughter if you forget. And I think there's a lot of opportunities for helping people with their health through digital means. But if that isn't informed by behavioural science, then I think it'll be really limited. The technology can only go so far on its own.

That sounds like so much fun. The idea of a pillbox that sings to you if you forget your medication is definitely the best thing I've heard of all week. Does that actually exist?

It does. About 10 years ago we did a study with one of the earlier versions of this and we were testing different incentives for medication-taking and it was a lot of fun! The song is not as pleasant as it is obnoxious. So sometimes they would go off in the lab and we would hear this like really, really loud noise at the far end and someone would have to run and open it up to turn it off.

How did you choose the song?

Ah, you know, I think it was just a default from the company.

I love the idea that there could be a whole group of people out there now writing songs - annoying songs for pillboxes - a whole new industry springing up. As a

former musician, I think that's fascinating, personally. But can you tell me a bit more about some of the projects that you've worked on and some of the research that you've done?

Sure. I'd love to. So we've done a few projects, research projects that I think are pretty related to your concept of Little Challenges. One of them that comes to mind is a study that we did using the Pleasant Events schedule. If you're not familiar with the Pleasant Events schedule, it's used in clinical psychology. It's basically a list of hundreds of activities, very simple activities - it's been shown to be very effective at lifting people out of depression. So the types of activities are things like: arrange flowers, collect recipes, go to a movie in the middle of the week, smile at people, even things like doodle, look at clouds. And the key to these really small things - some of them feel almost silly, like look at clouds, for example - the key, one of the keys at least is that they're very small, but they do add up. So if you get into the habit of doing these happiness-boosting activities, if you will, that can bring a lot of joy into your life as they add up. And they're also things that are well within your control. So you don't need a lot of additional resources for the vast majority of these exercises. And so some research that we did through Pattern Health and Duke, we used this Pleasant Events schedule in a six-month study with heart failure patients. So these weren't patients that were diagnosed with a mood disorder or anxiety, et cetera. But we decided, "Hey, like who can't get a boost in doing some Pleasant Events?" And so in that six months study, we found that completing the Pleasant Activities was related to a decrease in their irritability and an increase in contentment. And just in a subjective way they also told us they really loved them. It was the thing that kept them using the app and you know, the app was doing all sorts of other things like tracking their changes in their weight, which is important for heart failure patients. And it made them come back to the app and look forward to the next challenge that they had to do. So there, there were lots of benefits to doing these Pleasant Events. And what I thought was really special about this study is that it was really helpful to people with heart failure and I think could be really beneficial to everyone else as well.

Yes. So what I'm remembering from when I was very unwell - I always imagined that what would be needed for me to get better was something big. Some kind of miraculous intervention that was going to change everything. And it took a very, very long time for me to understand that a combination of lots of positive small changes sustained over time amounted to that big thing. And what I remember being very difficult was actually allowing myself to contemplate the possibility that small changes like these, that pleasant activities, the idea of looking at clouds, it was almost inconceivable to me at that point, that something like that could have any kind of lasting impact on what was, back then, very significant distress. How do

you help people to start making the little changes so that over time they can start to see the impact of those changes?

Yeah. Well I think you've hit on something really important just by calling these Little Challenges. Challenges are things that we can conquer. All of the language around challenge is exciting and I think that just the word 'challenge' invokes this sense of, "I can do it". And especially when they're little challenges, they seem manageable in a way that the large goals might be a little too overwhelming. Given that we had so much success in the past with the Pleasant Events with the heart failure patients, I think, once people start to feel the effects over time, they realise how advantageous doing those small things can be.

Mm. I think one of the biggest things to overcome - certainly from my point of view, I don't know for other people - but one of the biggest things to overcome was that kind of all-or-nothing thinking. "I want to be well and I want it to be now". You know, "I don't mind doing this big thing as long as it's instantaneous". And sadly I'm finding in life that very few things work like that. Those big changes - you might transform your life for a week or for two weeks, but actually keeping that going…

Yeah, there's a lot of research on goal-setting and basically the initiation of goals and the progress over time and what works at the beginning and what works at the end of when you've almost reached a goal. There's not a lot of research in the middle of how to sustain that goal, when motivation is not naturally there. Let's say you're trying to lose weight - I think an example that many people can relate to. You're doing all the behaviours, you're sticking to your diet, you're exercising every day, and at first you might see a lot of progress from that activity and that pushes you forward to keep going. But there's a natural regression to the mean where you're just not going to make as much progress after a while. And that can be really demotivating. And I think that's where you really need to add some spice to keep going.

So I'm really interested in the idea of gamifying things and I'm wondering if that's part of the work that you do in order to make things attractive to people. Is there a playful element to the work that you do to help people sustain new and healthy behaviours?

Oh, absolutely. From the scientist side, our skill is in understanding behaviour and not as much in creating tools. And then on the technology side, the folks that I work with at Pattern Health - they're really good at creating the actual tools. You know, there's a Tamagotchi pet who reacts if I fail at my health activity - let's say I forget to take my medication- then my pet turtle, who I've named and you know I'm very close to this turtle, he gets sad if I'm about to miss my medication, he goes into its

shell. So there's a lot of things that behavioural scientists can say, "Hey, this is a good idea!" And then technologists can say, "Okay, we know how to design the thing and bring it to life" in a way that I think just is a really special collaboration.

I'm already feeling quite worried about this turtle. It is OK, this turtle?

I hate to disappoint him.

This is fantastic. Sorry if I sound very excited it's because I'm very excited.

Good, I'm glad.

So where I'm coming from is that I am a complete non-scientist, I have no expertise in this field whatsoever. However, teaching myself about some of these principles has basically saved my life. So I feel quite passionate about it and I feel that particularly the implications around mental health and wellbeing, I personally think are huge, so I'd love to know more about, what do you think the future might look like in terms of how we might be able to help people to basically transform their experience as a result of understanding some of these very simple principles taken from behavioural science.

Yeah. Wow. That's a huge question. I mean, yeah I think that, if you even look at where the field of behavioural science was 10 years ago when I was just a newbie, it has become so much more accessible to everyone. This line between the peer-reviewed journals and everyone else, has, has really started being rubbed away, I think, as scientists better understand the value of translating their work and you know, figuring out how to not only communicate what it is that they're finding in their work, not only to communicate that, but also to identify the practical applications. I've sort of seen this trend happening over time and I, my hope for the future is that it continues in this direction and the scientists continue talking about what they're doing to more than just the people in their lab.

Mm.

I'd love to share a little more nuance to the research aspect, the Pleasant Activities that I shared, these are something that have been around for a long time and we know with a pretty high degree of certainty that they're going to work or that they're going to make us feel good and we can make a pretty straightforward recommendation that it's a good idea to do the Pleasant Events / Pleasant Activities, but then I think there are some other areas that are ripe for exploration. And we attempted to do something like this a little while back at Duke. We were interested in a particular type of little challenges and so we created a list of

activities that were geared to get people out of their comfort zone and to just try something totally new that they had done before. And so these were things like write a letter to a friend you haven't talked to in years and mail it, or prepare a meal with an unfamiliar ingredient, go for a walk with a neighbour, wear something unusual... So these are all, like, you can feel a little cringe with some of them and anticipate how it might make you a little uncomfortable. So that's what we hypothesised. We thought that trying some of these new things might actually lead to a temporary discomfort. You know, we're all kind of anxious about trying new things sometimes, especially at first, you know, it's by definition, not comfortable territory. But then we thought that these might actually lead to an increase in wellbeing over the long term. You know, you sort of remember that experience more fondly over time. You think of yourself as the kind of person who does adventurous things, like, that can be a very positive experience in the long term. Um, so what do you think that we've found when we did this?

Well, as someone who's been reading a lot of Stoicism and is familiar with the concept of voluntary discomfort and also as someone who's felt a lot better since they went out of their comfort zone regularly, I would guess that you would find that people felt better as a result of doing those things. But did you?

Yeah, so that's what we thought too. Um, no!

Really? Really what happened?

I mean that's the thing about science is all the time we find things that we don't expect and then we have to figure out how to explain it. So we actually did find the first result where the challenges led to less happiness on a day to day basis. And this is compared to a control group that didn't do any challenges. So some people, we asked to do the challenges, a group of other people we didn't ask to do the challenges. And then when we measure life satisfaction in the long run, we didn't find any difference. That's like a wah-wah moment.

Oh no, I can only imagine what it was like in the lab that day.

Yeah, and you know, it could be that the difference was there actually, but it wasn't detectable because we had a small sample size, there were not enough participants in experiment - we don't know exactly why, but I think one way that we can think of this research is that at least these challenges didn't lead to decreased life satisfaction. In the long run they at least didn't have a negative impact.

I'm really curious to know though, did you choose the challenges for people or did they choose them for themselves?

We chose them for them…

Is it possible that that has some impact?

Yeah. In fact, we had quite a few discussions around that and that was one of the leading hypotheses about what was really happening there is that, people always have the choice. You know, they can do whatever they want, but we didn't say, "Here, here's a list of five things and choose which one you want to do". Which, in the case of Pleasant Events, you do actually get to choose whatever you want to do each time.

So the sense of autonomy might actually be quite important in the process, perhaps?

Absolutely.

I'm just curious about that because I know I've been doing a lot of uncomfortable things, but I don't think I'd like it very much if somebody else told me what the uncomfortable… because I'm naturally someone who does the opposite of what someone tells me. So I think I would, I probably would just feel a bit fed up about that, but I'm, you know, I'm just naturally contrary.

So before you go, I'd love to ask you, do you have a Little Challenge for our listeners? Can you suggest something small that people could try at home?
I do. I do. I've been thinking a lot lately about giving to yourself versus giving to others. And so I'm really interested in the balance between these two and there's a lot of research supporting both of them. So I would say there's room to do both. But there's one thing that I've started to do to give to myself and that's lunch yoga. Lunch yoga is the Little Challenge that I'd like to offer you.

Just tell me a bit more. What does lunch yoga involve? Doing yoga at lunch time?

Not eating lunch while doing yoga. Although, you know, maybe I shouldn't knock it until I've tried it. Lunch yoga is simply doing yoga during your lunch break.

And if somebody is at home, let's say somebody is at home and they would like to try yoga but they don't want to get into Lycra and they don't want to do it in a room full of people because they're afraid they'll feel stupid. Do you have any recommendations in terms of how you could start getting into yoga in a way that feels safe and manageable for someone who's maybe feeling just a little bit wobbly in themselves?

Oh, absolutely. There are a million videos on YouTube. If you want to just follow along with someone, um, you could just Google 'yoga video'. One thing that I've done, not that I'm brand loyal or anything, but I've used the Nike Training Club App. They have a lot of exercises. You can just filter by yoga, pick one that fits the amount of time that you have and you're good to go.

Wonderful. Aline, thank you so much for your time and for sharing all your - well, not all of your expertise, because I'm sure there is masses more - but thank you.

No problem. Thanks so much for having me.