

## ADVENTURES IN BEHAVIOUR CHANGE - SILJA LITVIN (Katie Elliott & **Silja Litvin**)

On today's show my guest is Silja Litvin, psychologist and founder and CEO of *PsycApps Digital Mental Health*, developer of the multi-award winning *eQuoo - the Emotional Fitness Game*. Her company uses Artificial Intelligence, gamification and psychology to help people help themselves.

.....

Silja Litvin, thank you so much for joining me today. Where are you this afternoon?

Right now I am in Breite Straße 1 in Berlin at the Techstars headquarters.

That sounds very exciting. Can you tell us a bit about what Techstars is?

Techstars is the world's leading accelerator program, which means it is a program that takes startups and pushes them through a three-month program and at the end hopefully you've been whipped into shape and are ready to receive funding and to really have the best company with the best growth possible for whatever your company does.

And tell me a bit about your company and what it is that you're developing currently.

Ok. So I'm a clinical psychologist and PhD candidate at the Ludwig Maximilian University here in Germany, and as part of my PhD thesis I had developed an application that significantly lowered depression levels - because the mental health crisis has gone up to the point where one in four is actually suffering from a mental health issue at any given time. And when I finished the application, we went through a clinical trial. I saw that even though it works and we could prove that it works, people weren't sticking to the app long enough to actually reap the benefits. So we moved away from your typical mental health application where you have to do work and you have to keep a diary and things like that, and are now using the knowhow of the gaming industry to design therapeutic games that are also evidenced-based, but you're playing a game and the side effect is that you're getting better at your mental health. So that is my product. It's a game called *eQuoo* and it teaches psychological skills. And that's why I'm in Berlin.

Well, I have to say I have downloaded *eQuoo* and I've started playing it and I'm having a lot of fun with it. It looks great.

Thank you. It's always good to get that feedback.

And, well, I've got two reasons why I'm particularly interested in what you're doing. The first reason is that I have a longstanding interest in gamification. So 25 years ago I was a music teacher teaching young children how to read and write music. And I discovered that there was a lot about music theory that the kids I was teaching found deeply boring.

Oh dear.

I started to make a lot of the terminology and the signs and the symbols and the vocabulary into games that they could play. And we published a series of books, which actually are celebrating their 25th anniversary this year. So it seemed to work way back then.

Congratulations, you were way ahead of our time.

Well it was just a black and white notebook really, but the principle's kind of similar. So I've had a longstanding interest in this idea of taking things that people may not be motivated to do and then trying to find ways that they can learn how to do them almost without noticing, I suppose.

Yes, yes. I think that's really the best way - that you're doing something that's fun. And the side effect is that you speak a new language, that you can compose music or your mental health is getting better.

Exactly. So the other reason why I'm particularly excited about what you're doing is because after having many, many years of serious mental health problems myself, the way that I got better was by doing little things sustainably over time and teaching myself new coping skills - and they're the kinds of things that you're teaching people to do in Equoo. So I'm very excited about the potential of a game like this to help people inadvertently learn to do stuff that's going to change their life.

Absolutely. I like to kind of say that psychological skills or coping skills are like a toolset. We all come with a certain amount of tools, like let's say a hammer and a screwdriver and a wrench or something like that. And depending on what kind of parents you have, what kind of schools you go to or what kind of influences you have in your life, you acquire more and more tools. But sometimes our childhood gives us tools that we will not use or we're using them wrong. And so it's not beneficial for us when we become older. And that's what the game is trying to do, is to give us the right tool sets for 'adulthood'.

So how did you identify the skills that you wanted to help people practice through playing Equoo?

Well, it was a mix, I guess, out of skills that you need especially when battling depression and anxiety, skills that you need when you want to be able to maintain and grow relationships and then skills that I just wish I had learned the easy way when I was a kid and didn't have to learn in my therapy sessions. So a mix of these things that are all empirically-based, so they're all based on research. But there are things that, you know, if you are sick and you learn them, it can make you get better. But everybody could benefit from them. Like even people that are mentally healthy can get better at their mental health and their emotional intelligence, their emotional fitness.

I find that particularly interesting. And the reason why is because I think there's very often a divide - that people are sort of divided up into those who have mental health problems and those who appear not to. And I see it as more of a spectrum quite honestly because I feel that there were times when I was mentally and psychologically quite healthy and there were times when I was extremely unwell, but I think most of us are dipping in and out of good mental health and periods of depression or anxiety and that that's kind of the human experience and that it's more helpful to look at it as something where we can learn skills to improve our overall ability to cope.

Yes, absolutely. I mean it's actually a sliding scale, you know, and on one end you have people who are extremely well-balanced and very healthy and very happy. And then you have people who are close to, you know, giving up on the other side and depending on what is happening in your life and your coping skills and just, you know, life challenges, you move around on that scale. Having resilience and the skills to be able to deal with the situations is what keeps people healthy.

So I'm interested to know when you talk about, in the game you talked about teaching skills that can help reduce anxiety and depression. So can you give us an example of some of the sorts of skills that can help with anxiety and depression?

So the second skill that you learn in the game, and pretty much one of the main symptoms of anxiety and depression, is called generalisation. And it means when you take one situation or one thought and you generalise it to your whole life. Let's say there's one person who doesn't like you. A mentally well-balanced and healthy person with resilience skills will say, "Oh, well that's, you know, a bit sad and it might upset me, but it happens". Someone who is suffering from anxiety or depression will very likely take that and say, "If that person doesn't like me, I will generalise and say I am unlikeable". And that is a very big difference: if one person doesn't like you or if

you generally feel unlikeable. So the consequence of the amount of emotions and pain we feel is much higher and the consequences out of that, for example, is saying, "Ok, I'm unlikable, I might as well not go out because people won't want to be around me". And then it goes into isolation and isolation factors deeper into depression and you can spiral down. So being able to understand what generalisation is, being able to learn it in the game, you practice it in the game and then you should be equipped to go out into the real world and catch yourself generalising and saying, "Oh, wait a minute, I'm going to challenge that thought process. And I recognise it as something that is not helpful".

Mmm. And it does take practice, doesn't it? Because if you have grown up with that habit, and I speak as someone who had a diagnosis of borderline personality disorder, and one of the big things with that is black and white thinking isn't it? The fact that you don't see shades of grey. You put things into boxes and they're either this or that. And I definitely relate to that thing about generalising, you know, I would definitely be the person who focused on the one thing that went badly rather than the many things that went well. So in my experience of recovery, it's taken sustained practice to do those things differently because there's quite an entrenched way of thinking that you're trying to challenge there.

Yes, absolutely.

So through the game, what sort of things will people be doing in order to help them practice these skills?

So for example, in the beginning of each level you learn two skills and, like, in the first level you learn about emotional bids and generalisation. Then, once you've learned them both and you've practiced them a little bit, then it opens up an interactive adventure where you have to somehow in this storyline implement and use the generalisation skill to be able to level up and win that level. And so you have kind of like a safe but stimulating environment and each level has a different genre. So the first level is like a little bit of a fantasy, Dungeons and Dragons. The second one is a sci-fi, the third one is a love story, an office story and so on and so forth. And every time, in a different situation with different characters, you are encountered with one of the main characters in the storyline, generalising. And you have to correct that. You're practicing the recognition of generalising and how to counter that.

It's interesting. Because you're playing a game and you're put in someone else's shoes, it give you just a little bit of emotional distance, doesn't it? So that you're not - perhaps when you're starting out with these skills, it's quite hard to do them for

yourself, sometimes it can be easier to imagine you're someone else and then try practicing them, at the outset I think.

Exactly. And there's nobody judging you. You're absolutely safe. Like if you make a mistake and you know you don't win that level, your feedback is positively framed and says, "Ok, this is why you didn't make it to the end of the level, but very easy - just remember this and you know, give it another try". And when you play a game or when you learn something unexpected in a fun way - so gamification - you release one of the neurotransmitters called dopamine, which is kind of the cause of a feeling of excitement and happiness, right? So two things happen. First of all, you get a good feeling like, "Oh, this is fun. I like this game." And the second one is dopamine is like a post-it note for your brain. So the probability that you will remember generalisation after you've practiced and you've played with it in real life is much higher because it's connected to this neurotransmitter.

Fantastic. So you're using the same kinds of psychological principles that the games industry or in fact app developers generally are using to help us grow 'attached', shall we say, to their product. So you're using that with a positive social benefit.

Exactly. So you may have watched Mary Poppins and she sings this song 'With a spoonful of sugar the medicine goes down'. So that's kind of like the thing. If you don't go crazy on the sugar, it's okay to have it a little bit to make sure that you know, the medicine goes down and in our game we are going to have a fail-safe to make sure that people don't, as we say, 'overdose' on it. Because at the end of the day we are just using this medium to kind of help people have access to therapy, but we don't want to keep people in the game. We want them to go and use the skills in the real world and, you know, have agency and be ready to be able to deal with emotional and mental stress.

What a fantastic thing to be doing.

Thank you. It's fun.

Yeah. The thing that really struck me when I was working to get well was the fact that there was great information available *if* you have the headspace, the time, the money to go out and look for it. So for example, when I got my diagnosis, I was told that I needed Dialectical Behavioural Therapy, which I know is very effective, but it wasn't available where I live. And I thought, how many people are there who can't actually find the information that could transform their experience? So the idea that an app which, I don't think I paid anything for it, is it free?

It's free to play. You can buy skill packages where you can practice one of the skills a little bit more in depth and we have a lot of people actually purchasing them. But the maximum you can spend on the game at the moment is £4, so we're not going to bankrupt anyone. But, exactly as you said, working on oneself without the help of a therapist to kind of build a connection with and guide you through the process and mentally, emotionally hold your hand is very hard. And if you can't get up to take a shower because you're so depressed or anxious, then you're not going to get up and read a book or go through your worksheets, right? But what a lot of people who are suffering from mental illness do is they still watch television and they still play games. So we have access to that medium and that is what we're trying to do. And something else that is very important to me is, as part of my education as a psychologist, we have to do 30 hours of what's called self-discovery, but it's just therapy. And I remember my first few sessions I was like, "Well, I don't need it. I'm a budding psychologist. I'm well-balanced." Four or five therapy sessions in and I'm in tears. Eight sessions in I'm like discovering new aspects of myself and my history and my relationships with the people in my lives. And it was one of the most beautiful and uplifting and empowering experiences of my life. And I want to kind of be able to bring that joy of self discovery and the joy of learning into other people's lives. And I think that the playful aspect of that is a way to do that.

I definitely think that when you say playful, I think playful is so important because at times of being very distressed, being depressed, it can be so difficult to laugh and so difficult to see the lightness in the world and see the beauty in the world. It can feel as if, you know, you're just weighed down and everything is heavy and everything is grey and it's always going to be that way. And playfulness is about as far from your everyday reality as you can imagine right then. So anything that can help lift one's mood for a moment I think has great potential.

Yes, I do. I really hope so. And we are at the beginning of a clinical trial that will tell us a little bit more about how people who are actually suffering from depression and anxiety react to the game and not just, you know, building resilience, acting preventative. And I'm very looking forward to the evidence that you know, we're actually making an impact that you can measure.

Mmm. So you said that you do have evidence from your previous work that this was helping to reduce the symptoms of depression. So what sort of research did you do in the past?

So we did a proper clinical trial with the first version of the application that wasn't gamified. And we had over 400 participants use the game over four weeks. And at the beginning and at the end we did psychometric tests, so tests asking them about their mental wellbeing and we had two different groups. So we had the group with

the app and a group who didn't have the app, and we compared them at the end and we could prove that using the app over four weeks significantly bettered the depression rates in the people that were using the app.

That's really interesting. So the problem back then was it wasn't gamified so people didn't have an incentive to keep on using it?

Exactly. The problem with most of the mental health apps out there is that it's taking face to face therapy and it's kind of translating it to the digital. But the biggest motivator for therapy success is the relationship that you have with your therapist, right? So when you take that away, you have more or less a self-help book and that is just not strong enough to get people to, you know, stick to it. Just imagine how many fitness apps or healthy eating apps you've downloaded and you were like very enthusiastic for three weeks and then you kind of like forgot to enter what you've eaten and look at your steps and then after a month it's kind of just on your phone and after two months you delete it. So that is the best version in comparison to mental health apps - you have some drop off rates of 99% after the first week. So it's hard.

So I'm really curious to know what motivated you to get into this work in the first place? What is it about becoming a psychologist that appeal to you?

Well, when I was a young girl, my family moved around a lot. I was born in Germany, but I grew up in southern California. Then when my parents split up, my mom moved with us kids back to Europe. We lived in Luxembourg and France and then moved to Germany. And when I was around 12 years old, I remember this constant feeling of helplessness because I didn't understand the cultures. I felt that emotions were chaotic. I couldn't see a pattern. I didn't know why people reacted the way they did and my sister got for her birthday, her 15th birthday, a body language book. I remember reading it, like opening it up, it was a very simple book. Like you know, if you cross your arms you're shielding yourself from someone, the way your feet are positioned...stuff like that. And it just blew my mind that there was a science that could help you understand why humans thought, felt and behaved the way they did. And since then I wanted to be a psychologist.

It's so interesting, isn't it? In every interview I love to ask our guest for the day if they can suggest a *Little Challenge* that people could try for themselves. Silja, what would your *Little Challenge* be?

Ok. My *Little Challenge* is backed up both by anecdotal and proper statistical evidence. So you know when you get really anxious or mad or unhappy with something, like let's say you're in traffic jam and you're getting really riled up and

you start like saying the most terrible swear words you can imagine and you can feel your like your heart beating and your temperature rising. You're kind of locked in an emotion, a stress reaction that is really hard to get out of. And that's kind of like the lizard brain has taken over. And that can be quite harmful because you're producing a lot of stress hormones. So what I challenge myself to do, and it really works, and there's lots of studies that prove that, is that when you're in a situation like that to force yourself to find three things you're grateful for. Because two things are happening. First of all, you are forcing your brain to use a different part of the brain. So it's kind of like interrupting the stress response because you're starting having to think for things that you're grateful for. And the second thing is that you're rewiring your brain to become more sensitive to positive things. And it can be something really silly, like the sun's shining, the car smells good, or you know, like "I like the way my hair looks today", or whatever it is. It could be big news, like Brexit didn't happen. Whatever it is, every time you feel yourself getting into that spot of darkness, just come up with three things you're grateful for and you will see yourself immediately calm down and over a period of time, within two weeks, you can actually find yourself being a happier person.

Within two weeks? So that's simply because you're diverting your attention away from the lizard brain, which is getting all uptight about things, and giving your brain something more constructive to do?

Exactly. It's very similar to what you did during panic attacks is like you look for, for example, five items around you that are yellow. It's kind of forcing your prefrontal cortex to work instead of your amygdala. And that stops the stress response.

That is fabulous. Thank you for that. What a great challenge.

Yes, and it's fun too!

So I'm sure that people would love to find out more about your work and about Equoo. So where should they look?

Please go to the app store and just look for *eQuoo*. It's eQuoo - The Emotional Fitness Game, or you can just go to our website it's equoogame.com. And download the app and if you're feeling like you're really wanting to help someone and do something good, just give us a five star review!

And just before we finish, I'd love to know, where do you think this work could go in the future for you or in society in general? Where do you hope this will lead?

I actually hope to design a different new type of therapy, which I'm just kind of like randomly naming Online Gaming Therapy, that can take care of all those people on wait-lists or people who don't have the money to see therapists, people who live too rural or people who aren't ready to see a therapist yet, so that we can have sustainable affordable therapy and mental health care for everyone that is fun.

What an amazing goal to have. Silja, thank you so much for joining me today. I've so enjoyed talking with you.

Thank you. And thank you for offering this opportunity and being curious about Equoo. I really appreciate that.

Thank you.