

Recognising others emotions from non-verbal cues...

Intro 00:00

Welcome to the superstar communicator podcast. Our aim is to ensure you speak and communicate with confidence, clarity, credibility, and impact so that you present the best version of yourself in all business conversations. Welcome to our host, Susan Heaton-Wright.

Susan Heaton-Wright 00:18

Hello, everybody. I'm Susan Heaton-Wright, and I'm delighted to have Professor Paddy Ross, who's an associate professor of psychology from Durham University. Now, he is researching how children perceive social signals, particularly interested in facial recognition, body language and gestures. And those people who know the work that I do know that I am very much pushing on nonverbal communication as well as what we say to make a positive impact. Now he has a couple of his current projects involve the throat phenomenon that I can't even say phenomenon, an auditory emotional dominance in children when they can't ignore what they hear. And my question with this is if you're in a noisy classroom, is that going to impact learning? Yeah. And also how individuals with autism spectrum disorder recognise emotions from the hands. So welcome, Paddy. Paddy rather than Dr. Ross?

Paddy Ross 01:42

Oh, God. Yes, absolutely.

Susan Heaton-Wright 01:45

And the reason I reached out to you is because I'm at Durham alumna, and in the feed from LinkedIn, it said that you've done some research about how people read emotions, when they're wearing masks, other people are wearing masks. Just a little bit more about that.

Paddy Ross 02:06

Sure. So again, thanks very much for having me, and thanks, everyone who's joined in. So that research stems, obviously, out of COVID, wear masks became pretty ubiquitous in the West. And there were a few studies that came out that basically tried to say, "this is going to be terrible, people aren't going to be able to recognise anyone's emotions, it's going to be a breakdown of social interaction, that's going to be awful". The nature though, of sort of studies in psychology tend to be they tend to be lab based and very controlled. The way people will look at facial emotion is just to show the face and just pictures of our face, and they'll mask that they'll take the mask off, they'll compare results. What we looked at was, it's not really how you see people in real life, you don't just see their heads, unless, of course, you're on a stream yard stream, and you are going over heads, but thankfully, we don't need to be masked when you're online, right? So you tend to see everyone's whole body most of the time. So what we did was we did an experiment where we took emotional bodies, so people posing in emotional ways, being angry or fearful or sad or happy. We basically showed them the people and

said, "What's the emotion here?", then we have photoshopped on masks, a good a great undergrad student of mine that photoshopped all these masks onto these photos. And basically, what you do is you show people those ones as well, and you get them to recognise the emotions. This was a maybe a bit tongue in cheek on my part, because I kind of knew that it's not going to make much difference, whether you mask when you've got the full body, because the body is such an important conduit for emotion, recognition. We don't, a lot of research focuses on the face because it's you know, it's very salient, right? And everyone recognises a smile or a frown or whatever, what they don't sort of think about so much as actually what they're doing with their body and what they're doing with their hands, and the signals are sending off all the time. It's maybe picked up in the periphery of people when they're looking at a face, their body, they're not maybe not focusing on it so much, unless we'll talk a little bit about people with autism spectrum disorder a little later on that might be slightly different. But all we find was that it doesn't make any difference for happiness, sorry, for sadness, for fear or for anger, but we did see a little drop off in happiness. So the ability to recognise happiness.

Susan Heaton-Wright 04:45

So do you think if people were you thinking about in the field rather than in the lab, if people were to make sure that they use their eyes more in that situation to say show that they were happy?

Paddy Ross 05:00

To certainly well, it's not their eyes, their body or their voice. So again, here we're showing, we're showing pictures of people with these things to make it more controlled. It's a trade off, right, you either make your experiment very controlled, in which case, you lose what we call ecological validity, which is the ability to apply it to the real world, or you increase the ecological validity, and then you lose control ability. So it becomes a bit, there's lots of different elements, then that you can't control. The thing we don't have there, as all of these images are sort of people with their arms outstretched as if they've just, you know, sing along lost friends at a train station or something, and they're very happy to see them. It's actually fairly ambiguous. If all of the happy people were standing like this with their thumbs. Yeah, you know, you might find that actually having a mask on or off makes no difference at all people can still tell that emotion. And obviously, you touched on the voice there as well, all right, that the it's you know it again, it's a thing that's, it's unusual for us to think about the tone of our voice, because you don't really hear your own voice the way other people hear it. You'll know that awful thing where you hear this block and recording, and you don't sound at all like you think you did, yeah. It's kind of hard, and people don't tend to think about how they're talking I don't think, not consciously anyway, they don't make a conscious effort to. But if you're wearing a mask, that's incredibly important. Especially if you're trying to portray happiness, is to try to do it with your body and your voice. Because many people do smile with their eyes. Right? You can tell, you know, usually when someone's smiling, but the mouth is the key, the key convey, obviously, and when that's when that's taken away, it does make things rather more ambiguous if you don't have access to the voice or the body.

Susan Heaton-Wright 06:56

That's so interesting on a couple of parts. One thing is that with my, my own methodologies, superstar communicator, voice is the last part. And I often ask people, when their voice changes, is it when they're frightened? Is it when they're when they're happy? Is it when they're excited? And to start

consciously being aware of that so it can modify that if necessary, because it might be ambiguous. I hope I'm on the right.

Paddy Ross 07:29

That's very important. I mean, that the work you said at the start there, but the the auditory dominance, stuff where children can't ignore what they hear is, is all about that. So that's this phenomenon where if you show kids, let's say fearful bodies, someone caring and fair with their hands up, and you say, "what's the emotion in this body?", but you play them, someone laughing, someone being happy. And you say, ignore that, just tell us what the emotion is that you see. Kids are dreadful of that, they will say that that person caring and fear is happy. They find it very, very hard to ignore or not take on board, what they're hearing to such an extent that it actually is detrimental to the recognition of what they're seeing. It's one of the reasons I wonder when you're talking to children, when you know, you're you've sort of reached the end of your tether, and you really start still smiling, but talking finger tastes, and you started really angry, your child will just cry anyway, because despite your best efforts with your body and your face, the voice is giving you away.

Susan Heaton-Wright 08:42

It's amazing. So in fact, it's overriding nonverbal communication.

Paddy Ross 08:48

Yes, we think so. We think so because we recently just wrote a bit of the paper, where instead of emotional voices, we had emotional music. So violins and clarinets, you know, signing little happy trills, and little sort of sad, diminuendo something, and it works as well, which is really interesting. So it means that you mentioned classrooms earlier, it makes it any negative oral environment might actually impact a child's perception of what they're looking at. So you think of everyone who's working from home over COVID, if that's a negative home environment, there's arguments there's you know, sibling messing around, there's general negativity, anger in the house, that could directly impact them how the kid is, or how the child is viewing someone on screen, their teacher on the screen, for instance, the teacher could be very smiley and looking very, you know, proper and inviting them nice and welcoming like a primary school teacher. But if that's not what they're hearing, that might actually override their perception of what they're saying.

Susan Heaton-Wright 09:56

That's amazing. I'm sure I'm sure You need to push that out to education trusts. It's invaluable information for them.

Paddy Ross 10:07

A really, really good thing they were they were looking as well at emotional stories, and whether that sort of outage is not what you said, it's how you said it. Yeah, whether you're actually reading for instance to children in a, let's say you read you know, "Mr. happy had the best day ever". Would the child think Mr. Happy is actually sad, despite the content of the story being that he's happy despite the picture being Mr. Happy as happiest? It might do. We're gonna we're gonna find out this year, hopefully.

Susan Heaton-Wright 10:39

And when does that change? Have you seen, is there a particular time? Is it adolescence that, then we have a more adult way of responding to these messages?

Paddy Ross 10:52

Yeah, very much up in the air. The original work was a very simple experiment, where if you, if you see a flash, you had a button, and if you hear a beep, you had a different button. And then what happened was, the experimenter accidentally on purpose, presented them both at the same time, and said, Oh, whoops, that was a mistake, what was the stimuli, and adults will hit the button for the flash, whereas children will have the button for the beep. So they seem to have this just general tendency. So some work has been done to try to chart what we call the developmental trajectory, just basically the way kids develop and various abilities. Some researchers had said it was run about seven rip. And there's other work that says that you actually go through a little mini pubertal, sort of hormonal change of about seven or eight years old. We find for some stimuli, it was about seven or eight, the older kids didn't show sort of weird kids from five to seven, and then from eight to 11. The 11 year olds didn't show for some. For others, though, both sets of children were right dying, only getting you know, 20% accuracy, all the way up to 11. So it looks like it might kick on into into adolescence. We did some work five or six years ago, trying to chart again, the developmental trajectory of just the ability to recognise emotions in non language, vocalisations, so laughing, crying, and you know, girl screams and things, and we find that kids actually weren't adult like until about 14. It differs emotion to emotion, and actually, girls are always better than boys for whatever reason. But it seemed to be about 14. So, ideally, well, in an ideal world, you have lots and lots of children ranging from 5 to 18, and you have this lovely, continuous, you know, trajectory. In reality, getting that many kids for that to work, logistically is extremely challenging. And so that's why we kind of have to bin them, we call up into these little age groups, which isn't ideal, because you know, you could have a very old seven year old and a very young eight year old who are only separated by a couple of months, and all of a sudden you've split them. Yes, but for want of a better way it's it's a tiny way of doing things. So yeah, jury's still out on where it changes, we just know it does change, adults tend to have a visual dominance. Another event, another thing that could stem from this could be an evolutionary reason for that where you know, when you are three foot tall, being able to hear threat before you say it is much more reasonable to you. Whereas when you become a protector, or you know, an adult in a group, being able to see something from far away before you can hear it may well be far more useful to you.

Susan Heaton-Wright 13:54

Really, really good point. Now, I don't know if anybody's on watching live, but if you've got any questions at all, or wish to say hello, we really welcome you. But I have had some questions from other people who aren't able to attend live, and I know that you mentioned about the work that you're doing with autistic children. I was wondering how they recognise emotions, can you teach it? And does it involve hand signals?

Paddy Ross 14:31

Yes, so we had a paper out two years ago, me and a colleague, Tessa Flack, which looked at the hands basically, and this was just with neurotypical participants, we call anyone that isn't, doesn't have a socio emotional disorder or isn't neurodivergent. So with with neurotypicals when you remove the

hands from emotional poses, it seems to make a difference for a we find a difference for fear and for anger, but not for sadness or happiness, and it's basically in emotions where the hands are being used for something. So they're being used for shields, you know, in fear or weapons in anger or things like that. We also know that people, the neurodivergent populations for people with autism, have particular trouble with with facial emotional recognition. Eye tracking tells us that they tend to just not look at the areas, which we would automatically look up. So mouth for anger, or sorry, mouth for happiness, or eyes for fear for the middle of the brow for anger, and tend to look all over the face really how that works with the body, we don't actually know a great deal about because research for a long time has treated the body as just one whole thing, and not individual parts. So you know, your shoulders up or dying, or backwards, or leaning forwards, certainly not harm position or form on the body is very complex. It's I mean, if you have fists up here, you look angry. If your fists above your head, you look jubilant, like you've just jumped for delay, you imagine winning like a tennis match or something, everyone looks very angry when they win a tennis match. If you take still images from a newspaper, everyone's screaming and shouting, and actually they're incredibly happy. So this year, either a brilliant group of four undergraduate students who are going to look exactly like this, who are going to basically replicate that hand study, where we took the hands out and tested the emotion recognition, built with an ASD, an Autism Spectrum Disorder, population, and neurotypicals. And to be honest, we don't actually know what will happen, it could be that taking the hands out makes it much harder for the ASD group, because it's the sole real communicator of fear or of anger, it could be that doesn't make too much difference, and it could be that that could be the case, because of the same reason that we see in the face, that they're just not looking really up the right bits for longer to detect the emotional, emotional content. It's gonna be very interesting either way, and it will be something that we'll be able then to apply. So if we do find that actually, the hands are even more important for this population, maybe because they don't tend to look at the face as efficiently, and they tend to look at the body more perhaps. And that is not something that we can really, we can tell people who are communicating or wanting to communicate better with ASD populations, to really try to emote with your hands far more, which may make it far easier for someone with ASD, or any socio emotional disorder, I suppose. To detect how you're actually feeling.

Susan Heaton-Wright 18:12

That could be groundbreaking, couldn't it? That can be

Paddy Ross 18:22

Yeah, I mean, it's no wonder it's so under researched. It really is, that it could be, yeah, it really could be that could change, sort of how we advise people to communicate. And you know, at the end of the day, being able to communicate more effectively and efficiently with with people who find it hard to communicate is sort of the name of the game.

Susan Heaton-Wright 18:42

Absolutely. Now, you mentioned about different parts of the body. I found that very interesting, because when I was training to be an opera singer, we did mask work, which covered the entire face, to think about what we did non verbally and vocally, although it was difficult with a mask. So that is very interesting, so within the theatrical, the performance world, there is work on that. But I've got a

message from Greg Williams, who's a body language expert, and he asked something very specific. "What do shoulder shrugs indicate when someone's voice? Tonality is excited, Sad or neutral?"

Paddy Ross 19:30

So it's a fairly specific question on if I'm thinking about, just as you're asking it there I was thinking about being excited and being sad and being nothing, I suppose. And I guess the main thing that you think of certainly is height, I guess. If you're excited you touch your shoulders and you're really really excited. If you're sad, you tend to slump on your whole head slumps. If your usual I suppose you're you're in the middle if you want. Now whether those by themselves can indicate the emotion someone's feeling. So if you don't care or see a face, for instance, could you tell if my shoulders are down there? Or up here? How I'm actually feeling? Maybe, maybe not. But I think you might be hard pressed to find someone who's sad and trying to portray it with their body that doesn't have slumped shoulders. Or that's excited, I know thinking about my daughter, when you know, she gets excited about something, she'll be really, you know, their shoulders will go up. It's an interesting question, but I don't know whether the shoulders themselves indicate those emotions. I think rather, the flip that you'd be hard pressed to see those emotions portrayed and someone where you don't have those particular high, low, mid shoulder positions.

Susan Heaton-Wright 21:04

I'm thinking from a vocal point of view that if you're slumped like that, you could, it slightly alters the vocal tone. And that because because you're restricting your larynx movement, that might, that might change, you know, another subconscious, or another nonverbal message that people could pick up.

Paddy Ross 21:29

What was most interesting in that mean, the little noise I did when I was sort of pretending to be my daughter, there was a very high pitch. So you know, and it's, there's something there's something there's something in that where, you know, if you are, you're excited, you're up, you're, you know, you your voice does go higher, as you get more excited. When you're sad, you're literally down, and your voice is lower. And, you know, it's, it's, there's definitely something in that sort of even the semantics of that, of being up and being high, and being down, and being low. Literally, all those words mean, sad, and all those other words, mean excited. There's certainly something I'm not, I'm sorry, if that doesn't answer that question.

Susan Heaton-Wright 22:21

We added some things I'm sure that, Greg we'll have some things to go away with and think about from that.

Paddy Ross 22:28

You're very welcome to email me and ask away anything like that.

Susan Heaton-Wright 22:33

Now, we talked a little bit about gestures and things like that, you know, and I know that there are some cultures where gestures, hand expressions, hand movements are very, very important. I am not going to be racist in any way, but the Sicilian population in southern Italy, they have their own nonverbal

gesture language, it's well known. So, what cultural differences are there with gestures other than the obvious ones?

Paddy Ross 23:11

It's, it's, it's interesting how these things start. There's no I mean, there is that that stereotype of, you know, Sicilian, even Italian, very hand-gesturey, every phrase, know, whether it's not for emphasis because of the language. Potentially, there's obviously some cultural, you know, sort of like, shared cultural meaning behind that. I'd love to ask someone who does social history, if this was a thing that dates back, hundreds, 1000s years. Is it a Roman thing? Is it a Latin language thing? I would be thrilled to find out, I know that for us, we actually tend to talk with our hands more than we realise we do. We tend to very much open our hands, especially if we're up in front of people, you need to give your hands something to do. A lot of the time I've sort of been sat here even just talking now in my hands touch my face, and they're all over the place. You do tend to use your hands more than you think, maybe just not as overtly openly, as you know, put this way when people really use their hands like I did there. You really know what sticks in your head. When people use it the same way that you're used to seeing it, you know, I might talk like this and you know this or not, and you'll point different directions. Is that emotive or is it emphasising the thing that you're talking about? You know, if I'm saying our there's a few things means, and this is me essentially juggling a few things, or is it this sort of, I'm sort of physically holding then this and that and weighing up two options literally with my hands. If I mean, can you do that? I mean, you can do it, I suppose in an angry way. You could do it in a happy way. I wonder if you would emote with your hands like that with language in a sad or fearful way? I'm trying to think of I've done that, certainly not consciously, I suppose you don't tend to do any of this stuff consciously?

Susan Heaton-Wright 25:33

No. I wonder if, if the energy goes down?

Paddy Ross 25:38

Yeah, perhaps.

Susan Heaton-Wright 25:40

And you're using your, your facial expressions as well, to demonstrate that?

Paddy Ross 25:47

Yeah, yeah. I mean, the cultural stops are really so interesting, especially because we don't tend to take that into account. You know, the many stimuli, for instance, that we're using are post stimuli from the Netherlands. So mostly, presumably, against the university, so it might be, you know, people from all over the place, presumably, mostly Dutch. Is that different if we then test those emotions on, you know, Durham undergraduate students, who, again, are majority English, but you know, only just. Plenty of East Asian students, lots of European students. Is that a problem? Maybe?

Susan Heaton-Wright 26:39

Yes. And in the same way, there are different facial expressions aren't there? You know, there might be somebody speaking and I might think, being English that an expression or a sort of facial gesture from

one to a better word, I might think, oh, goodness, they're being rude, when in fact, it's part of part of the way that they speak.

Paddy Ross 27:07

Yes, absolutely, then we know that there isn't what's called an own race bias. For recognition, you will recognise emotions better from people of your own general ethnic race. How far though that goes down, I imagine that's a very broad term. It could be brought down even much, much further than that. So for instance, you know, people from America will be more pronounced, but quite similar to Ireland, England. People from the Eastern Europe, into the Middle East, will they be the same? Or will you be able to detect the emotions that they show with the same accuracy as you can people from your own country? I'd argue not. I don't think so, and certainly, then you know, when when you go to East Asian countries, they tend actually a moat quite differently. There's more emphasis on the eyes, than there is the mouth. That's one of the reasons anime, comics and animation have tiny mouths and massive eyes, because happiness and fear and you know, all those great Studio Ghibli films, most of the most of the emotion is nose up.

Susan Heaton-Wright 28:38

Amazing. I'm gonna look out for that. Oh, we've got a couple of comments from Corinne: "In listening, we see people in with a very connected way of listening using their hands more often than people who love listening to facts and figures. Do you recognise that? *Facts and data" She corrected herself.

Paddy Ross 29:01

So we see people with a very connected way of listening using their hands more often than people who love listening to facts and data. So is that does that mean sort of in a more connecting with things on an emotional level, perhaps instead of sort of role, you know, the, here are the facts on the...?

Susan Heaton-Wright 29:25

So Corinne, if you if you want to explain that more of the way that I'm reading and they says that if you bring emotion into it, people are going to remember that more than facts and data.

Paddy Ross 29:41

They're gonna use their hands more, because there's emotional, there's an emotional side to it. I think that's, is that maybe what Corinne's asking? I mean, that would, anecdotally that would sit very nicely with with my experience of listening to people who are, you know, interested in what you have to say, compared to people who are just there to hear the results of a talk and just want the numbers, and they're going to make their own mind up rather than someone who's invested say in a conversation about facts and data.

Susan Heaton-Wright 30:14

And do you think therefore that those people that are being more emotional with their nonverbal communication, they're going to have that connection, is that going to help with the trust element?

Paddy Ross 30:29

The more emotion on there, I mean, certainly, I would have, I would have thought so I mean, there's a fairly good correlation between trust and openness. So they're nearly synonyms, right? So for, you know, someone who is literally open with their body language and their hands on are facing us on our, you know, articulating, gesticulating with their hands will look more open, will be less dominant and more trustworthy, most of the time.

Susan Heaton-Wright 31:02

That's interesting, Corinne says "connected means focused on the other".

Paddy Ross 31:09

I think certainly them and not care, so focused on the other way of listening, using our hands more often than people who love listening to facts and data. I mean, it's one of those people that are listening, and it's nearly a communication, exercise on the other people seem to be listening, but they're just listening to find out the stuff. That's not a two way communication. So in that case, absolutely. If it's some kind of, you know, focused on the other communication that someone's doing, I would say, certainly, that's where you're going to automatically end up using your hands more. I would absolutely recognise them.

Susan Heaton-Wright 31:51

Brilliant. But now, I've got one more question, and that's related to people wearing glasses. I wear glasses when I'm on screen. Based on the work that you've done, particularly with children, are there things that spec wearers should think about to make sure that they are showing emotion?

Paddy Ross 32:12

Good, good news for spec wearers. It doesn't matter too much at all up in specs on if anything, it actually highlights your eyes, directly attention of anything to your eyes, compared to you know, the rest of the rest of you. With children. It's interesting with children because the mean what we've what we find is that the ability to recognise emotions in the body comes quite early in kids their adult life and not ability to get a bite eight years old, we tend to find faces later voice letter. So I mean, part of this is that actually your your three foot tall, right? When you're five years old, your main interaction with other people is the body of your parents, on the hands of your parents, right? Unless you get down to their level, they're actually looking at your face from a very funny angle. A lot of the time across a room. To go back to your question sorry about glasses. It's your as, as motive of as I'm able to be with your face, there's nothing special handily that you'd need to do. It's I wonder whether sometimes I wonder whether you ask children, do you remember if that person were classes or not?

Susan Heaton-Wright 33:38

Name? No, they weren't.

Paddy Ross 33:41

I don't just another minute, I've seen work with sunglasses. I've seen work with different types of headscarf covering various bits of the face. Yeah. And obviously my mask study that you mentioned earlier. The good thing about glasses, they don't cover very much of the face, you know, I mean, well, it's a third of a third of the maybe somewhere between a third and 50% of the population wear glasses.

So it's not like it's an unusual thing as well for children to see. I wear contacts. My wife wears glasses. Our daughter will probably soon be wearing glasses in that case. But no, it's not something people need to worry about. Which is nice, a nice a nice answer I can give us with.

Susan Heaton-Wright 34:30

Now I'm aware that you're a very, very busy man, Dr. Ross. I don't know if there any other questions, but I know that you have said that people can contact you directly, and I will leave if you don't mind your email in the stream just in case people want to contact you directly to ask questions. Are there any more questions here? Because I know we've covered a huge amount here. And there is an awful lot that we can take on board for our everyday communication with clients, with colleagues, with chat with family members, with friends. Is there anything else you want to add before we finish?

Paddy Ross 35:17

Thanks very much for, for having me. This has been it's been marvellous. I mean, the thing with academics is they love talking about their own stuff. So apologies, I sort of went a bit wayward, and, or whatever. But it's a very, very good opportunity just to talk about your own research, I find it very interesting.

Susan Heaton-Wright 35:35

Well, you know, it's been an absolute pleasure and an honour to interview you, and I wish you well for all of the work that you're doing.

Paddy Ross 35:46

Thank you very much. Maybe after this, this ASD hand work gets finished, I can come back and talk to you and let you know what the results were.

Susan Heaton-Wright 35:55

This is really, really useful. Particularly if you know, we we might be working with people in our team who find this challenging. And if there are ways that people can lead or communicate and to help everybody, that's a really good thing. Oh, there's a couple of things that come. Jane says "we work with a huge number of students affected by trauma, and can be muted times how can we support?" Jacqueline says "thank you very much", and Jane says "great session thanks so much." Do you have time to ask Jane's question. She's an amazing lady who has a charity in Hertfordshire, and she goes into schools with multinational companies. And I've done some work with them as well. And she and to prepare children for working in getting jobs. So the question was, we work with a huge number of students affected by trauma and can be muted at times, how do we support?

Paddy Ross 37:10

I mean, that's a tough question. I mean, so my, I have certainly no expertise working with students with trauma. It will depend on whether I mean being mute, but not communicating at all, I suppose are two different two different things, and being mute doesn't necessarily mean that they don't understand everything that I guess you're trying to communicate as well. So it depends where the support is needed. Is it an understanding what the student is trying to convey? Or is it trying to trying to convey what you feel or want to say, to the students? I appreciate this isn't the best forum to have a back and

forth conversation about that, but it depends. Again, I don't want to give, because it's not my area, I wouldn't want to say the wrong thing and give bad advice.

Susan Heaton-Wright 38:18

Would you mind if I introduce you to Jane? So she did have a question, because what she's doing is so amazing.

Paddy Ross 38:25

Oh, that sounds really interesting. I'd be really glad to.

Susan Heaton-Wright 38:29

Okay, so I know that you've got to get back to looking after your four month old baby.

Paddy Ross 38:36

Should we come back from our walk just in a second?

Susan Heaton-Wright 38:39

Oh, thank you so much, and as I said before, I will leave Paddy's email address if anyone wants to get in contact with him, and we will have I'm sure I'm going to invite paddy back because this would be brilliant. Thank you so much. And thank you very much all of those people who've been listening. I think everybody's been in all of you. So haven't asked questions.

Paddy Ross 39:06

Got huge amount of service.

Susan Heaton-Wright 39:10

Not like lectures with undergraduates know you

Paddy Ross 39:13

Yeah no luck there.

Susan Heaton-Wright 39:17

So until next time, thank you very much for watching. And this is superstar communicator with Susan Heaton-Wright. Interviewing paddy Ross. Thank you. Bye bye.

Paddy Ross 39:29

Goodbye. Thank you.

Intro 39:31

Thank you very much for listening to the superstar communicator podcast. Don't forget to subscribe and feel free to contact us at www.superstarcommunicator.com