00:00:00	Yeah. Just kind of get going here. So, um, Gina, could we start by you saying your name and, uh, however you'd like to be represented, if you just want to represent yourself as a PhD in epidemiology, uh, or if you want to represent yourself as, you know, uh, scientists at resume med or however, whatever you would like to to do. So, uh, can you just introduce yourself first?
00:00:26	Sure. So I'm **Gina Merchant** and I can go by Gina. That's fine. And um, it's actually a phd in public health, um, health behavior. So I, in terms of a title, I'm a behavioral scientist. Let's go with that.
00:00:41	That sounds great. That's fantastic.
00:00:44	That, that sounds terrific. Um, can we start with a speed round?
00:00:48	Okay. Yeah. Tim, you and I haven't talked about a speed, right? Oh yeah,
00:00:53	no, but let, let, let's just wing it. Let's just, let's,
00:00:56	I just wing it. Oh my gosh. This is, this is not how we operate. I'm going to go crazy.
00:01:03	Are you going to tell me when it's like officially starting or do you just edit stuff out?
00:01:08	We will edit. We will. Yeah,
00:01:10	we will, we will edit. But once the speed round starts we will, it'll be kind of the official. So Tim, do you want to do a actual real introduction and then we'll, we'll go from there? Yes,
00:01:21	yes, yes. I, I, I do. Okay. So, uh, okay. So Kurt, why don't you start and I'll, I'll, I'll, I'll do the second and fourth and you do the first and third. How about that?
00:01:33	Okay. But are you going to do a welcome Gina? Yes, I am. Okay. Okay. Okay. Okay, cool. Okay. Ready? One, two, three.
00:01:43	Welcome Gina Merchant to the behavioral groups podcast. We are glad to have you here. We'd like to start with a little speed round. Kurt, you want to get started?
00:01:53	Sure, I will get started. All right, a speed round. First answer that comes to your mind as we go through here. Coffee or tea, which do you prefer?
00:02:03	Coffee, black. [inaudible]
00:02:05	well, my sick bicycle or unicycle?

00:02:08   Bicycle.

00:02:10   Yeah. To live without a phone or without a computer. Which would you choose

00:02:16   without a phone?

00:02:19   What deal do you think it's better to have? Uh, a product designed by people who are reading, um, editorials and op-eds in the New York Times on scientific information or should they just wing it?

00:02:39   See neither

00:02:43   much better answer. Much better answer. All right. What, so, so Gina, why don't we, we'll only dig into that. So what is it that is, so your, your, um, background is in kind of looking at, at a bunch of different around behavioral scientists. You're a behavioral scientist and one of the things I know that you are very interested in is, is looking at how people sometimes take a little bit of information and they're not really versed in it and use that into different ways. So let's, let's bring that down to this product design that Tim was talking about. Help us understand your thoughts around that.

00:03:23   Sure. So I think it's similar to when people were first hiring designers. So a UX design person in a large medical device company, any type of product really. **And we all have our own quirks and things that we like and don't like about the products that we engage with every day. And so we all in a way think that we're a designer**. **And yet these folks have gone to school for, uh, I don't know how many years. It depends, but they've got expertise and how to design a functional product and there's a process and a framework or a recipe, if you will, that is very similar to the scientific process.** And I think I'm entering into industry and where I currently am employed. I'm at resume, which is a very large, you know, global leading medical device company and more of a rural setting. The people that I both work with and the people that I work for, meaning our patients, I'm designing digital, um, applications and services that are gonna help patients.

00:04:35   You know, everyone is a human being. And so it's really easy for people to fall into the trap of, um, I'll just use a couple of biases, for example. **So there's this truth illusion effect and the more that we hear something, the more we are likely to believe it, irrespective of evidence upon which that thing is built.** And then this can be really problematic. I mean, I don't want to get political, but a really good example has gone to violence. There's this chorus of voices talking about, um, you know, connecting mental health. And so people will say mental health and gun violence. And the more that gets repeated, the more people think, well, we should dig into that study at like, let's, let's tackle that problem. And so a good example in my world is I got into my new job straight out of academia.

00:05:26   I was a postdoc at UC San Diego and I left in January of last year and I've never done work in behavioral economics. Um, I am a tried and true intervention as I come from a obesity prevention, weight loss background, strong training in, uh, devices, wearables and different technology, data science. But I read an article, *The New York Times*, um, about, well, the startup out in New York City using lost version. Um, and I know that there was recent about prizes awarded to Richard Thaloer. And then prior to that, a couple of other behavioral economists. And so I said to myself, well, if I'm going to get people's attention, I'm gonna leverage something that's out in the public facing domain that is behavioral science and go with that as an experimental design. So I think it can work to your benefit. But I think what happens when it's like also the **bandwagon effect** it too many people on this. Why again thinking that this is the way to do things and you can kind of get in your own way.

00:06:29   Hmm. I, I just want to go back to the fact that I'm not a designer. I, I can't design stuff on my own very back to even be getting there. No, but I think that's very true. I think we, we tend to look at things based on our own, obviously the biases that you've talked about, but our own perception of this is what would make a good product. And we don't have necessarily that background to understand all of the design components that go into that and reading an article or two doesn't make us an expert. Same Way as reading an article or two or an op ed piece. And behavioral science doesn't make us a behavioral scientist. So, um, yeah, I, I fully believe that. So

00:07:10   yeah, just really,

00:07:11   okay. Yeah, go ahead. Go ahead. I'm sorry.

00:07:13   I was going to say, I think it's interesting too because there's a couple of things, um, in behavioral science. So my early training was in experimental psychology. That's my masters and then I switched over to public health and it was a transition from more tightly controlled studies and more focused on psychology. So without thinking the brain and behavior, public health is very broad. It could be very community based, thinking more about effectiveness versus efficacy. [7:50] **But there's one thing holds true all the time is that as humans, you know, we've got a lot of information coming into our brains all the time and we have to make sense of it. And so we have to rely on heuristics.** And again, those hero six can be good. Um, if we can democratize behavioral science in such a way that the right types of off the shelf toolkits are being leveraged by people across different disciplines, within departments, at all levels, then that's a really promising, like we've done a good job.

00:08:17   I just think where we are today, there, there aren't a lot of behavioral scientists out in industry and I am friends with, you know, a lot on social media. I call them my friends cause we, we engage with one another a lot. But I think we've got another 10 to 15 years before we can really realize the fruits of our labor, meaning out in products that people engage with for their health. So if you're

looking at an app to lose weight, do the ingredients in that app really result in behavior change or do they just make marketing claims that they do?

00:08:51   Yeah, they, I, I read today, um, so behavioral over in London just wrapped up. And so there's a bunch of comments and Dan [inaudible] was speaking there and he said, you know, sometimes we've been using behavioral economics and behavioral science to kind of tweak different products. And he said, you know, sometimes you just have to blow it all up and start from scratch. Um, and that's a much bigger piece. But he said, when you do that, you tend to make, when you build Bheki into behavioral design into that from the very beginning, you can have these transformative impacts as opposed to tweaks going along the way.

00:09:29   Yeah. And yeah,

00:09:30   it's tough, you know. Oh, I'm sorry. Go God, I thought, I thought you were hesitating because of, there was a pause on the video. Keep going.

00:09:39   I was hoping I was gonna wait three here, I want to show your comment once before, but I'll just say one quick thing. **Um, it's very unsexy or it's unpopular to tell the powers that be within whatever organization you operate is that you want to blow something up and that you need to start from scratch. And I think one of the challenges that I have faced is there's this very intimate interplay between data design and the human. And we talk about big data and we talk about the promise of these algorithms, but there's so much that goes into understanding the biases that you're building in. So we, there's countless examples, which is one, there's algorithms for skin cancer that the sample that it was validated on is mostly white and it doesn't work for people who have dark skin.** And once you carry these projects that are on these product development timelines, how it gets very hard to convince people that the experimental design, when you think of like chemistry actually applies in a very similar way to human behavior change.

00:10:48   And I've actually heard people say that human behavior change is harder. I don't know if people say getting your phd in in payroll science is harder than getting your MD. And it's kind of a dumb joke and it's a false dichotomy. But the point is is that humans are infinitely complex and we can't control so many variables about the physical and the social environment and so forth. And so often I'll go into a meeting and I start talking about all these things that we need to consider. And it very quickly becomes apparent that I need to pick like the top two out of my list of a hundred. And just, which I understand there's always constraints, but I just get concerned when what we produce is not going to actually meaningfully move the needle on health.

00:11:33   There was always a sense of, uh, making choices, culling from what the available options are to decide what it is that we're going to focus our attention on. But with behavioral science it is particularly challenging because there are so many complexities in human behavior and, and I think that that raises, uh, a

tremendous amount of, uh, I dunno, guesswork. I mean, honestly, there we, you know, we talk about relying on heuristics and experience, you know, I, I have a client that, uh, that just wanted to send me a flyer and said, here, you know, dress it up with some behavioral science. How can we make this more effective? It's like, well, okay, yes. And it's more, it's more than that. You know, we need to, we need to actually dive into who the audiences and how they're getting it and under what conditions are they getting this message and w what, what's the hope, uh, to be achieved? And there's a, that's just the surface of, of what makes that, that communication, uh, what you could do to make that communication more effective. Um, and, but could you, but to get back to what you were saying earlier, you could, you could imagine a future where behavioral science or some of the principles of behavioral science become more mainstream.

00:12:47   Oh, absolutely. I mean, I look at, you know, my career, I, it's funny in a way. Um, I, I'd be young in industry having not had experience in this space, but in my training, you know, I'm 10 years in as a behavioral scientist out of that, in academic setting. And if I were to look into the future, I try to think of things in one, five and 10 year plans. And if I look at the one year plan, I think about this democratization of behavioral science. So some of the work that I've done or most of the work that I've done, um, have you been at resume now for almost two years is laying out the infrastructure and the architecture for us to be successful. And you mentioned, um, Tim, you know, it's hard and it can be like a guessing game. I would push back a little bit on that and say let's, let's call it a testing ground and you sure about A/B experimentation.

00:13:52   Well, in behavioral science and really the roots are in psychology. You know, we've got the wonderful and knows our framework is to do A, B, C, D, E, dot, dot, dot, dot. Like subscript k, like however many groupings you want to do. And the way that you need to set that up in your company is you need to have three things. You need to have user level analytics. So you need to be able to capture, what am I doing day in and day out with application that you're expecting me to engage with? You need to have the repository that's obviously private, um, and you know, it's going to store the data and you're gonna be able to learn from those data. And then the third thing, and this is really important because I think this gets lost. It's not lost in mainstream journalism or media. Everyone is talking about trust and privacy and ethics, but a lot of companies, you know, they definitely want to get in trouble.

00:14:52   And so there's very robust legal departments and a lot of people, there's privacy officers, obviously we're posting Cambridge Analytica. But to really get at the heart of if we want our users or our patients or whoever's on the other side of the product, to engage with us, the people behind the black curtain in a consistent and meaningful way over a long period of time, we have to be very good about the user experience, which really is at the feet of the UX design team as well as the purposefulness or the value of the data that we collect from people. We can't just go about being frivolous or irresponsible and say, well, I'm going to call it this, this variable because it's going to help me market more

product. And I'll say there's not space for that. Like marketing has a very important role, but those lines need to be clearly drawn so that everyone on the company can move toward the same goal aligned in terms of designing products that that value are valuable for people.

00:15:56   Yeah. So don't, don't do it just because you have the ability to do it. Don't, don't gather that information. In other words, just because you can and it can be useful. You have to understand how does that impact both that level of trust with the customer and ultimately the, the overall value that is bringing to both the company and to the, uh, the participants or the end users of, of who you're gathering the data from. Is that, does that what I'm hearing you say? I just want to make sure I'm not misinterpreting that.

00:16:26   No, that's, that's perfect. And I think if I can bring it back to folks who might have a more academically inclined way of viewing this, I spoke earlier about medicine. It's, it's do no harm in public health. We often, um, you know, I'd say we like as well, I'm still going out and doing this work, but I definitely a lot of work with um, uh, Mexican American communities, Hispanic populations in general. But here in, uh, southern California, South San Diego, there's obviously the borders right there and you'll go out into a community and there's a grant that you've been given from a large funding agency, usually often the NIH, and there's a time period upon which this is going to begin and end and then you're going to be out of that community. So what obligation do you have? And the way that a lot of public health people have thought about this is, I'm going to go in there and I can't just give the control group nothing.

00:17:24   So there's different design considerations, wait-list control. So you'll get it after six months. There's crossover randomization and there's all these different techniques that are employed to really protect the people that you're asking to get data from. And I challenge industry in a way, um, for those that, that want to think about how they can better serve their base. Think about where does this potential mistrust come from. It actually goes way further back than Cambridge Analytica. We talk about the Tuskegee syphilis studies, we can talk about the [Stanford] prison experiments. I mean there's a whole host of instances where things have been done on ethically in both clinical and behavioral health and the people and the communities upon which we are expecting them to either use our products because they have no choice. So in our case, if you have a chronic disease, you want to use an application that's going to help you solve, monitor and get good feedback on your therapies, we have an obligation to these people to do it right. Uh, I think from a broader sense than just necessarily keeping them in our customer base.

00:18:38   Had the theory,

00:18:39   a simple or a sub strata of this is you want to approach these opportunities with a high ethical standard.

00:18:47   Yeah, definitely.

00:18:49 So Gina, I think there's a, there's one thing I want to go back to, cause you were talking about that Ab testing that is done relatively, I mean I think a lot of companies bring in ab testing in a marketing design, all of those various things. But you brought up this component of using a larger subset for that, which is kind of a psychological component where you bring that and Nova in and I know you're bringing in that behavioral science perspective into the work that you're doing and you're having to interact with UX designers and data scientists and uh, everybody else within the, the, the, you know, corporate world. What do you think the value is? And I bring up that example because I think that is one of the values that we can bring. What, what is the value of bringing a behavioral scientist into a corporate job in the corporate world? When you're, you're doing these types of things?

00:19:45 Yeah, that's a great question. I'll, I'll take the first part around the multifactorial experiments in the ABCD ad infinitum. Well it gets quite large quite quickly, but the value there is the value prompt as folks would say is enormous. So we think about the cost of content development and production and it's, it's nothing to laugh at it. It's quite costly, but we know from loads and loads of health communication research that the more variables we can tailor on the better, and these aren't just standard demographics, but we know that things like having the voice of a clinician speaking to you in the name of that you would like to be called, that may or may not be your first name and all of these things. So some of these Ab tests could be expanded to consider what I know digital marketing folks called the form factor and you can interact the content itself with the medium it's displayed.

00:20:51 You can vary the amount of tailoring and then from those results you can give back to the business. Having a that says, look, you will get a 25% increase in adherence to therapy. If you invest an extra $2 million upfront on doing this more expensive production and your lifetime value of that investment is going to be $20 million. So that's very powerful. Um, to get to your second point, I will be honest, it's been a challenge for me as an academic to come out of that role where the only place you really sell yourself is in the bios of your grant applications because your job as a scientist is, I mean there, there, there are large egos everywhere. So I'm not pretending that those don't exist in the sciences, but I think it's, it's hard for me or it's been hard for me to say this is what makes us great and without us you will not be successful.

00:21:56 However, I mentioned when we were chatting before that there is folks have started a medical due diligence company called m disrupt. And I've gotten together with uh, these two women who are incredibly successful in their own right and silicon valley. One's an MD and one is a marketing. And commercialization expert and they really opened my eyes alongside with a ubiome. Toronto's all the other columns, examples of money, just millions, tens of millions of dollars going to waste. And the reason that the money's going to waste and these companies are failing is because they don't have people like me in from the beginning designing their product with the aim of changing human behavior. Because often if you unpack the product, that's what you're trying to

do. You're trying to get a human being to do something different based on a set of things that you're expecting that they're going to interact with on a somewhat regular basis.

00:22:57   And then you have some outcome you're measuring against. Well, the people that know how to do that are one scientists because we know how to conduct an experiment. We'd know how to do no hypothesis testing. We understand qualitative and quantitative data. And then the second piece is we know about human behavior change. So CIM, when you are talking about it is it is a challenge. Sometimes I feel like I'm just picking something off of my own shelf, which I feel like is the sophisticated shelf, but I'm like, oh well it could be one of these 20 let me just pick one. But I think there's some basic fundamental underlying principles about behavioral science that everyone can start from. And the first would be what's known as operational psychology or operant conditioning. And this is where behavioral economics is kind of taken that and gone mainstream.

00:23:53   And a lot of this is around schedules of reinforcement. So we know that people need to be rewarded closely in time for the behavior that they have executed on that you want to be repeated. We know the punishment generally doesn't work. And we know things like loss aversion can be effective. And then the second large piece of literature, which is actually where my expertise comes from, is social network. I call it mechanisms of influence, but I feel like I need to rebrand that cause it's quite a mouthful. But the idea here is that we're heavily influenced by those around us, whether we admit it or not. And one of the really great tools that people can have in their back pocket is normative messaging. So if you think about, I am looking to recycle more. There's a lot of great work by West Shults actually here locally to where I am out of cal State San Marcos, that's done best. We know that I get information about my neighbors or cycling behavior and based on if I'm below or above and I received the right type of message about their behavior, I'm going to change my behavior just based on knowing what I think they're doing. And now we could talk about whether it matters, whether that's a true thing that they're doing or not, but those types of messaging are quite effective.

00:25:15   Well, I think we should talk about whether it's true or not because we've spent some time with Robert Cialdini and Bob Cialdini is a guy who was absolutely emphatic about the correct use of data. Uh, in the, in the towel study, the re, you know, reuse the towels in the hotel room. You know, they had to measure with a particular hotel room. How many, you know, what was the, the frequency with which towels were actually being reused in that room in order to, to make that claim. And I think that that's a rigor that, uh, I'll, I'll blame marketers because I've been on that side of the table for some time, um, that, uh, are willing to just sort of let go and it's, and it's hard. Um, and, and, and that brings me to ask about some of the challenge. That's the challenges that you've covered. Just getting back to this ab testing idea, corporations are not used to ab testing. Corporations are used to someone coming up with a good idea and a

senior more senior person says, that's a good idea. Let's do that. And then they do that.

00:26:19   Yeah. So going from a B testing to a two, you know, k a and fit in on whatever it would be, as you're talking about even a bigger stretch and, and a variety of different things. So it's changing the behavior. You are talking about changing behavior and part of this is actually being able to work within the organization to change the behavior of those corporate executives that are in there.

00:26:44   Yes. And I think that you hit the nail on the head. I don't have a good answer other than to say it's something I think about every day. And I think there's a whole other work stream opportunity for people to get into that involves behavioral science kind of coaching. I mean it's really a group psychology, but I don't want to be too quick to lump it together with kind of executive coaching because this is really more about, um, and this is in part what I'm disrupted is trained in, into which is to bring these communities together. They're looking more at technology or technologists and, and medical people. But the same could be said for senior executives and behavioral science. I think that you do have to have thick skin, which is good. And academia, you have to have thick skin because you're, you know, the old joke reviewer number two is, is always ready, ready with a rep.

00:27:45   Um, but one of the things I've tried to employ is I really am a person, so I am going to lead with science and that does take some of the burden off of, of me. **You know, it's not, it's not about me. This isn't my personal agenda. This isn't my like idea that I'm trying to get rich off of. I'm just telling you that this is what the evidence is pointing us toward.** And one of the values of our current reality as human beings and people working in these industries, you know, making these products is data are everywhere. And we have strategies at our company and I know people at other large organizations and it's all about the data. It's all about how do we personalize, how do we tailor, what are we going to do with our data? What machine learning? Everyone that's like talking about machine learning and AI and I g I'm like, great, let's bring it, let's talk about it.

00:28:46   Because that's, that's my wheelhouse. And I, I would love to be on a team where we can build and learn from our data iteratively over time. And again, there's, there's a, a recipe book for, I mean we can, we can banter about, um, whether no hypothesis testing is appropriate or we should be doing, you know, Basie and statistics. But essentially, you know, statistics is like gravity. You know, you can disagree with that, but it's just the way that it is. It is. It is. Yeah. So, so let's, let's go after our strategy and let's employee the things that we know are going to get us.

00:29:29   Yeah, I think that's very well said. And I think that there is that component again of taking those, sticking to what we do best, right? As behavioral scientist, as scientist, actually, it doesn't even have to be behavioral scientists. It is that scientists is coming into this with that a scientific perspective of saying, you know, I would love reality to be x, but if reality is why I can't keep believing that

reality is x and my job or y, you know, whatever it went, whichever way I mix those up. But you know, and our job is to help everybody else understand that no, this is reality is really x. It's not y even as however much you want to believe it. And sometimes that's tough and sometimes that's a hard, hard thing to do, but I think it's the right thing to do so

00:30:22   well is this, this gets to misinformation, right? A big concern of yours. So I'm just wondering if you could talk a little bit about your concerns about misinformation in our, in our world.

00:30:35   Yes.

00:30:35   It's terrifying. I just have to add one comment and drop a book recommendation. So *Willful Blindness*, this is a book that I read last year and I already want to reread it because it talks about, you know, the BP oil disaster and other examples where people haven't listened because they want their world to be y and it is x. So I think I wouldn't encourage people out there that really stick to their worldview to challenge their thinking around what can happen and how expensive that can be. Yes,

00:31:12   we'll put that, we'll put a link to that in the, uh, in the show notes so anybody can find that. So,

00:31:19   yeah. And, and misinformation, it's, it's a really scary thing. Uh, the World Health Organization listed misinformation around vaccines as one of the top five public health threats facing our world. And if we could just put that in perspective, you think about lack of water, proper sanitation, infectious disease. And that's a very, very big statement for the largest health organization that our planet knows. I came out of academia in the process of writing what's called a k grant for the NIH and it's a career transition path to go from a post-doctoral fellow to a professor. And I pivoted my work from how social media and social networks can help us positively change our health behavior around weight loss and reducing our metabolic syndrome and so forth. Just thinking about how these same networks can spread really,

00:32:24   um,

00:32:25   dangerous ideas and how, you know, there's theories of, uh, information diffusion and we understand now how there's hubs and networks and uh, strong ties and how, you know, others, but of this exploded at such an exponential rate given how connected our lives are online. And if you think about Google and the first place into just sticking with vaccines where new parents go, it's online and the prevalence and the unregulated nature of a lot of this health information, it's like lighting a match and dropping it on a haystack. And so there's some really interesting work, um, out of various groups that I've seen. **Confidence Project**, I think her name is Heidi Larson. There's, there's folks, um, I had started to look into this idea of inoculation theory and some

journalism. Yeah, it's really interesting. So some, it just happens to be inoculation, which sounds similar to vaccines, but it was originally implied or sorry, applied in the realm of climate deniers.

00:33:34 And the idea is that you warn people, you give them a warning that they're going to encounter misinformation online and then you give them a little taste of what that misinformation is going to be. And then you were fueling that misinformation using science and usually statistics and normative messages. So, for example, 90% of climate scientists agree that global warming is happening and that it's human caused and there's some good, uh, controlled experimental evidence that this might be an effective approach. Now, I'm not sure how you scale that, but again, if we look at big data and we look at the public health angle and if there's worldwide or nationwide organizations that want to invest intervention dollars and public health campaign money, I think that that, that is a route that we can go. I think one of my biggest fears around this information is that it's industrial traded. So many sectors and areas of our lives that I don't know what's going to happen in the next 20 years. And maybe that's the challenge for the next generation to really focus on.

00:34:44 Well, I think it's really hard too because as you were talking misinformation, we tend to have this confirmation bias. And so

00:34:56 yes,

00:34:56 of starting point, um, and so we don't even realize that it misinformation just by its very nature is not, is very difficult to tell from real information. Um, and thus the, the fact that we, if we start with a certain perspective, it's so much easier for us to gravitate to and to be sucked into the belief that yes, this is actually real versus the predominance of the evidence being another way. And we can always talk about, well that's fake. That's, you know, the mass media. That's whatever. It's, it's the other side. And you can always, you know, justifiably justify, uh, your for doing some of this stuff. And I know some of it in our previous conversation, I know you were talking about, you know, this rabbit hole that happens with misinformation as well. Um, yeah. Do you want to talk a little bit about that?

00:35:50 Sure. So there's a book called the **Filter Bubble**. Um, and that's another good book to read. And the idea here is that there's, there are echo chambers. So when we're online we are going to be exposed to like the likelihood of exposure to misinformation increases with each encounter that we have. And then it can get to the point where it's pretty much all we see. And so from the rabbit hole perspective, I think one of the things that I, I've been trying to think about, I was just speaking with a colleague about this the other day is not getting an a chip for tat exchange with people because then it becomes a gaslighting and it's, tit detracting from the real information that needs to be put out there. **So the vaccine areas, again, what I know the best, and there's a great paper on the tropes, uh, perpetuated by the anti-vaccine movement. And what happens is people are constantly changing the goalposts. So if you try to engage on one**

refutation, then they're just going to throw another one in your face and then another one and another one, and then they'll find a reason why

00:37:10   did

00:37:11   what you said, even if it's true, it's not true and it doesn't matter. And then you throw the emotional angle into it. I think what we could do a better job of, and I use the, the we quite liberally, uh, but if you think about it from a public health campaign perspective is narrative story time. So in a lot of the misinformation around vaccine injury and trying to put out that the, there's this high prevalence of it. People are using really sad emotionally engaging stories. Now I don't know what the counter to that is because the absence of disease, there's not really that much to talk about. I have a shirt that says, "Vaccines Cause Adults," and that was made by a chemistry PhD and I found her on Twitter and I just had to order one. But my point is that there's, there's this, again going back to the social network, normative messages, how can we bring real people into the conversation? We know how math literacy and health literacy and just literacy in general works. You know, people aren't good with numbers. People don't absorb texts as much as they do video. You put a picture alongside tax, there's higher engagement, there's all these incidences. So again, if we could put the money behind it to be more astute and **I guess provocative and sexy about the science of truth, then maybe we'll have a chance**.

00:38:45   It's really interesting. I had a conversation just last week with two people who were telling me that, uh, vaccinations cause all kinds of ills and that, um, that we should, we should be stopping it. And, and I said, well, what are the ills that are, that are being caused by vaccinations? And they said, well, we don't even know what kind of chemicals or compounds that are being put into the vaccines and they're using those to control us. And so I thought, wow, that was really scary for me to hear. And I said, so how, how are we being controlled or what, what, what could this be and how are we being controlled? And they said, well, we could be possibly being controlled for all kinds of things, like what we eat and what we buy. And I, and I said, so are there people who are, so the people who are not vaccinated, they're escaping this, right?

00:39:36   And they say, yeah, you know, people, you know, there, there could be a whole group of people who are being excluded so that they can control us. And I said, well, and so when I started to break this down with rational arguments, they instantly abandoned the idea. They instantly just said, well, you know, whatever the, and kind of tossed their hands up and say, well, I'm not gonna argue with you. And I thought, wow. So they weren't willing to engage in any kind of intellectual, um, uh, exchange about the veracity of their comments in exchange for simply wanting to hold onto their beliefs. You know, one of the things that one of Kurt's favorite things is that self-identity. They, I think that they identify themselves as, as anti-vaxxers and that's how they want to remain and they are willing to issue the truth and push it aside. As long as they can maintain their, their identity,

00:40:30   right. They'll, they'll die on the cross for that one. And I love that you brought up **self-identity**. I'm fascinated and I have it on my to do list to read more about, uh, things like the **looking glass self**. So this idea that I, I get information from my social environment about how I think others perceive me to form who I think I am. Yeah. And I had always thought about identity as, you know, I was a collegiate athlete. I've always loved sports and exercising. It's who I am is, you know, it's really not a choice for better or worse, you know, pushing through injury, what have you. But identity I think extends beyond that and it does get into this realm most. And if you think about it from historical perspective about who is in power, you know, in the United States, controlling, you know, different branches of government, you think about cultural norms and, and kind of the tides of history. If we looked at that as our kind of how we understand the phenomena, it helps to put in perspective the power of the collective herd in forming our own identity. And this gets back to us thinking that we're autonomous people, you know, and it would make BF Skinner proud because I'm basically saying that we're all like pigeons.

00:41:58   [inaudible] conditioning. So you know, you, you brought BF Skinner in well before this.

00:42:06   Yeah. But I mean I'm not a, I'm not a full blown behaviorist. I, I definitely, I, it's both. And I think that's getting back to the beginning of our conversation. It's complicated. There are a lot of forces at play. And one of the things that's really interesting about wearables and the possibilities leverage, uh, ethically and by people who know what they're doing with the data is the opportunity to do, you know, there's, there's some work now with uh, digital sensing like passive phenotypes, pulling digital traces from your keystrokes and so forth and estimating risks of depression and getting clusters of folks. And it's mind blowing really. And then if you had in scraping your social media feed and looking at over a year's time, what type of seasonal patterns, I mean, this is very temporarily dense data. I do worry about what we're gonna do with all of it. But I think for people designing products to improve the lives of patients and to prevent disease, it's a massive opportunity.

00:43:14   Well, I want to go back to just talking again about self-identity and that the part that you brought in is that that looking that, that looking glass self-right, the component of who we are is not an individualist to component, but it is part of who we've, how do we fit into that larger group. And I think that's a key piece. And it goes back to, you know, we're tribal and Tim and I talk about this all the time. We are tribal by nature and an evolutionary kind of a psychology would tell you, look, the people that fit in with the tribe are the ones that survive the ones that you know, pissed off the tribe and you know, said, no, this is me and I don't care about the tribes rules or how the tribe feels about me are the ones who got ostracized and got left out in the cold.

00:44:03   So it is a hard thing. And going back to what Tim was talking with, just this, you know, I think today in particular in this I think is some of the social media components to have of this element. And I am just making conjecture here. So

the, you know, Gina told me the expert on this as I'm wrong, but you can find like-minded tribes out there around anything. You know, you sit and you think that there are people who believe that the earth is flat and they will come up with ideas around it and rationale for how they think this. And you sit there and you go, is this still the year 2019 I mean are we in the 21st century? And yet they can find those, those likeminded people. And so then I can identify and I'm no longer an outcast, I am an incast and now I feel like I belong. And that's, that's a very powerful motive too, to keep believing those beliefs. So that, sorry, that was my little rabbit hole. [inaudible]

00:45:08   you're absolutely right. And this is where the filter bubble, which was, I felt like it was written maybe more than five years ago. So it's only gotten worse. But the idea that you hit on, which is you can find anyone online who's going to share seemingly erotically. I think it does two things. So one, it makes you have, um, what people have called, it's a behavioral science term and there's, I forget if the work on this has debunked some of the early findings, but **pluralistic ignorance**. So you think that, you know, for example, you're a college student and your perception of what others are doing is wrong, but everyone else believes that same thing. And so say it's like the everyone binge drinks. And so in this case you go online and you find others who think the world is flat, it increases your likelihood of thinking that that's a common belief.

00:46:10   So it potentially perpetuates it and makes it increase. Not necessarily because others actually are also like the prevalence is actually higher, but the people who endorsed that are falling for the **fallacy of pluralistic ignorance**. I think that the other thing it does that's really dangerous is it gives the illusion of legitimacy. So a lot of journalists talk about this all the time and I feel for people in that profession because everyone's an expert and it's great how we can go on Twitter and we can get these information on feeds. There's, there's a fantastic scholar by the name of Kate Starbird and I think she's out of University of Washington and she has some excellent collaborators and they look at the perpetuation of misinformation following natural disasters, chaotic worldwide events and other areas of misinformation. And so you think if there's folks online who are saying these crazy conspiracy theory things, it's very difficult for people to tell truths from reality. Yeah. So pessimistic view. But

00:47:28   I know

00:47:30   there's a, so there was a, **John Oliver** did this wonderful thing, uh, um, of, uh, bringing on, and it was for climate change, right? And so it was the whole thing that you're talking about of saying, Hey, we have to give equal time to the other side. Um, and yet he was like, he was going, you know, all right, so 99% or 98% of scientists believe that, you know, climate change is caused by manmade and only two, you know, don't. And so he brought in, so the really what we need to do is get all the scientists and then they started bringing in 99 people that are wearing white lab coats versus the tier that we're wearing, you know, a different kind of lab coat. And just kind of showing that because I think to your point of going back to this pluralistic ignorance, we are not good with numbers.

00:48:18   You know, humans just in general, we, you know, steps and, and in math and all those numbers. And so, yeah, well we see that there's, you know, 200 people that agree with me on the city's like, wow, that's a lot. And you're going, there's seven plus billion people in the world, you know, 200 people, 2000 people, 2 million people is such a small, insignificant number when we think about the totality of the world. But our brains don't work that way. Sorry, another rabbit hole that I go down. The challenge with this, because the way we learn things is through other people. I, while we have science to help validate things, um, if, you know, I, I believe that the earth is round now, I can't prove that. I actually don't have a way of proving that myself, but I'm confident that there are people who can prove it.

00:49:11   Right. And, and, and why do I believe that? I believe that because people that I trust told me that, and you know, to a large degree, I, I believe that the earth was round from a very early age because my parents told me the earth is round, you know, so this, there is a challenge that I think we have with people who have been told the earth is flat for instance. And it's a very, they just believe it. And then all kinds of identity issues and all sorts of things start to complicate that. But, but, um, it's, it's hard to bring science into, uh, into a discussion where they are, have already believed something for a long time because someone they trusted told them that.

00:49:54   So we talk about this idea of stealth health and behavior change. And it's not to say if you're lying about trying to change someone's behavior because that's unethical like coercion, **but there's ways to design, to help nudge people to use the very hot term toward a positive change, whether it's their beliefs, uh, it's gets harder when it's a complicated behavior, but there's things that we can do.** One example is so promo told us, our community members in often Hispanic American communities, Mexican American women in particular that spread health behavior campaigns and behavioral, um, you know, guidebooks and, and going out to families and taking the work that's been put out by doctors and people such as myself and saying, look, this is for the betterment of our community and for the betterment of our people, our tribe, so to speak. And that's an opportunity for us to think about how do we instill trait the network from the inside as opposed to trying to come in with an expert voice over the top.

00:51:13   I think it's interesting, Tim, that you brought up this idea of you knowing that the world is round from what others have told you there is a phenomenon. It's a true saying that knowledge is communal. So I don't know. Things that I like, I'll say like, I know the world's around or I'll say, you know, I know that the earth goes around the side, but I don't really like know the trajectory. I don't know the speed. I couldn't give you any statistics on that, but I trust the people that do and my parents and all of that. So it can be a good exercise for us to think about how do we take that? Those are the known scientifically about how human humans operate, make decisions and how we establish our belief systems and how can we leverage that to design, to improve health. I call it using our biases to work in our favor.

00:52:10   Yeah.

00:52:12   It's like using behavioral science powers. We're good

00:52:15   there. Ooh, I like that. Lots of good book title.

00:52:19   There you go.

00:52:21   Uh, I was wondering if we could, uh, move over and talk a little bit about music.

00:52:25   Of course. I love music. Yes. Who doesn't like music?

00:52:29   Well, we, we have had a guest or two, so yeah,

00:52:35   we'll find it one day.

00:52:36   They will, they will find it one day. Alright.

00:52:40   I know that your life has a, you've been through different phases and chapters in your life, right. As you know, student and, um, dissertation and doc and, and a parent. And, and I'm wondering if you reflect on the, your musical tastes and what you're listening to. Have they changed, do you think with the different phases and chapters of your life?

00:53:05   Uh, yeah, I think I wish that the rap was better for teenagers nowadays. Cause when I was a teenager I thought we had really good rap. Um, so yeah, when I was young, I mean I used to listen to all, I'm going to date myself, but, uh, DMX, Tupac, um, I'd say biggie smalls probably over a Jay z and that kind of flavor a little Kim. I loved her. I locked very hard. The good, very good lyricist. Yeah.

00:53:38   I think it'll be interesting because my son listens to rap right now and I bet he will fit. When he gets up to that certain age, he will wear you reflecting back. Um, yeah. Back when I was, you know, a teenager Zap was good. Right. So,

00:53:53   yeah, I just don't think Kanye has it. I mean he's just, I can't get over his personality, but [inaudible] yeah. And then, you know, I went to, I went to junior college in San Francisco, which is where I met my now husband and I got really into like that or southern California, that central California vibe. Jack Johnson. Um, it was tribe called quest if like that was for, but a little bit more like Melara about short, you would call that genre and uh, Ben Harper Surf on home.

00:54:29   Yeah, that's definitely a mellow though. Yeah. Yeah. So do you still listen to Ben Harper and Jack Johnson?

00:54:36   Do you know? I don't know. Now I'll listen to the 30 top toddler songs, which is actually a [inaudible] coalition. There's a great, actually, if you want a good talk, the recommendation is by Ivan Schultz and there's a song called firetruck and

you would think she was like singing about love or something. It is so powerful and great. And I probably said they just listened to it all the time. But

00:55:05   it's not baby shark though, is it? So,

00:55:08   no, but I've heard that one.

00:55:10   [inaudible]

00:55:11   we've talked to parents that just really are so ready to be done with baby shark. They just can't, they just can't wait for the moment that, that their child's tastes changed away from baby char, baby shark. So, um, but we'll, we'll have to check out. I've Ivan Scholtz. Um, what do you love about music is, do you think that there's a behavioral

00:55:31   Oh, absolutely. Yeah. Oh, it's in our DNA. I think that ever since we stopped, I mean, even before we could walk up, right, we were banging on things and using, you know, our total and invitations to express ourselves and the sound of nature. I mean, I grew up in Topanga Canyon in the Santa Monica Mountains, and the sound of wind is just, it's beautiful. I also think that I grew up dancing ballet and I quit when I was about 14 so I could concentrate on soccer. But in that process I grew up loving and I just, I love classical music. So Swan Lake and, and just the way that you pair movement with sound and how different choreographers can take the same piece of music and a different pattern of movement and they could both be absolutely exquisite is just incredible to me.

00:56:36   Oh cool. So we lost you right after Swan Lake for some reason we had a little blip there. Could you go back and pick that up from Swan Lake?

00:56:44   Yes. So I grew up dancing. Ballet in Swan Lake is choreographed by a Tchaikovsky and I think that the way choreographers can listen to the same piece of music and separately go out into their respective corners and choreograph movement to sound and both creates something incredible but quite different. And the way the body just responds to the notes and the control that requires and, and then just take it back to soccer is probably a funny thing to say if you're not a player. But I love the sound of the ball and in a perfect, a perfect strike. And it's kind of similar to the love that I have for point shoes and Vin Rosin and, and the sound of the, you know, breathing. None of the things that you hear when you're at a ballet. But yeah.

00:57:43   Yeah. It's, it's interesting. I've heard other, I've, I've heard, I'm a basketball fan, so I, you know, and, and, and you know, basketball players that talk about, you know, the sound of the gym and the squeaking shoes and the balls and then the perfect swish when it goes through the net. And there is, there's a, there's a beauty to that to a certain degree and I think everybody has those components, so. Fantastic. Absolutely.

00:58:08   Yeah. Thank you very much to, you know, we really appreciate the time that you have spent with us this afternoon. This has been really fun, uh, for sharing both. Uh, you know, I rarely get to hear any of our guests talk about Swan Lake, so that was a huge, that was a huge plus for v.

00:58:24   It'd be an outpour Ivan Schultz. Well thank you both Tim and Kurt and um, I can't wait to hear behavioral groups more and more.

00:58:35   All right, well thank you Gina.

00:58:38   We will close. Yeah, we will close there. And really thank you. This is, we are greatly appreciative. This is, I mean we, we when we covered a lot of ground, so yes, we did. Yeah, that was, that was fantastic. So what is it, well, you know what, we can, we could go on and on, but we've, we should, we should certainly let [inaudible] I'm just curious about what you have a child, oh, the window open it up now. Yeah. Um, is is, uh, resmed's soon to be in your rear view mirror. Are you, have you found a place to move on to?

00:59:19   Um, I mean, yeah, among my friends I am in the process. I'm kind of consulting on the side with a company that we hope is going to form into start up. And my other option is I'm looking into the m disrupted people. I'm going to consult for them as a behavioral science subject matter expert. But yeah, I mean not, not in the next, these things take time. So I am going to give myself the next four months, I'm going back on my leave in November and December. And if the startup doesn't work out, then it's going to be nose to the grindstone looking for jobs.

00:59:54   Yeah. Well would you, would you keep us in touch with [inaudible]?

00:59:57   Yeah, no, absolutely. If you guys have things to like said my way to, I'd love to [inaudible]

01:00:03   oh yeah, absolutely. Yes. Yes. Well, uh, and, and, uh, I I to do, if I could ask, could you send a photograph that you would like us to use and uh, and a short bio, you know, a a hundred word kind of thing that we could use, uh, in the, in the introduction and we'll, we'll get show notes and then, uh, any links that you would like us to you as if it's, uh, would you prefer to use a linkedin link to get to you or an email or however you would like to be.

01:00:33   Okay. Linkedin is fine. Yeah.

01:00:35   Okay. Okay, great. Good. And then, then Gina just, you were probably a month, month and a half out to do the post production and everything on that. So we'll let you know before it goes live so you get the chance to, you know, to just have that and, and uh, yeah. Thank you. Yeah. Thanks very much.

01:00:54   Thank you both. This is super fun.

01:00:56   Okay.