Episode 36: Using Behavioural Insights to Tackle Public Health Challenges

with Takuro Ishikawa, Senior Behavioural Scientist with the BC Behavioural Insights Group (BC BIG)

Takuro Ishikawa has made a career of applying BI to different challenges. We zero in on public health and discuss how behaviour is at the root of many health challenges, whether in prevention or treatment. Tak shares case studies, highlights, challenges, and ethical considerations for applying BI to public health, all with the larger goal of working to reduce health inequalities.

Transcript:

KIRSTIN APPELT, HOST: KIRSTIN APPELT, HOST: Welcome to this edition of Calling DIBS. I'm your host, Kirstin Appelt, Research Director with UBC's Decision Insights for Business and Society or DIBS for short. Today, we're Calling DIBS on Tak Ishikawa.

Tak is a Senior Behavioural Scientist with the BC Behavioural Insights Group, or BC BIG. And although Tak is a relatively new addition to BC BIG, he's been using the BI toolkit for a quite a long time, and he has a long track record of applying BI to important problems, often within the context of public health. So today I'm excited to learn more about Tak's experiences, which he called the challenges, joys and tribulations of applying BI to public health. So let's dig in. Welcome to the podcast Tak. Thanks for joining us.

TAKURO (TAK) ISHIKAWA, GUEST: Thank you very much for having me. I'm really glad and excited to be here talking to you and the students as well.

APPELT: Great. So let's just start by having you tell us a little bit about yourself.

ISHIKAWA: Yeah, yeah. So I don't need to repeat my name. I've been working, as you mentioned for quite a long time, and I started way like almost like twenty years ago before BI was called BI because at the of the end of my undergrad education is when I encountered Daniel Kahneman's work, and I would get really excited about it and interested because I've always been interested in kind of counterintuitive ideas or findings in science, one, but also, I was always fascinated by all human quirks and irrationalities, right, like why we press the button in the elevator over time even though we know that it is not going to make it faster. So when I encountered Daniel Kahneman's work it was that, oh, this is amazing. So I always try, you know, my work that I did try to insert a little bit of BI.

I started initially with small businesses, with an NGO in Colombia that basically trained small businesses like stores like corner stores or bakeries tried to insert a little bit of that in the training that I was providing or designing for them, kind of loss aversion or sunk cost fallacy things, then I just went to, what was next, I went to market research, which is more like an obvious place to do that. Then I went to work in pensions and that was about temporal discount or intertemporal choices. Most of what I ended up using was this Liberman and Trope Temporal Construal theory and how people kind of, when they think about the pressure, they think little important things we wouldn't think about the future of health and well-being. And sometimes the balance between those two, when you're a salesperson, is like people will start asking, okay will I be able to

withdraw my money for my pension and what happens with those, thinking about those circumstantial, less important things and try to help these people get the conversation about the future savings, etc. So that was kind of really interesting was that idea that was BI oriented.

The next phase was negotiation and conflict resolution, which surprisingly is heavily informed by BI, right, Max Bazerman has a book on that. Another super rewarding work. And then from there, I try to jump into the world of public health, So that's how I also ended up doing a PhD in experimental medicine and then working with BC BIG.

APPELT: Wow, such an interesting, winding career, and it's fun to see the overlaps because I don't know if you know, but actually my dissertation was on negotiation, so I've also dipped my toes in the negotiation waters.

ISHIKAWA: Okay, that's cool. Yeah.

APPELT: So let's dig into the public health piece because I think that's something that will be really interesting for people. And so we've talked a little bit about the winding career path that got you there and then how you kind of spent a lot of time in public health. So what specific public health problems have captured your attention?

ISHIKAWA: In the one, number one that is still in my mind, everything that I think about these days is kind of this problem of health inequalities or health inequities and how essentially health is distributed in the population in the same way as well. And actually, there's a big correlation, and in many cases, there's proven causation in terms that just being poor makes you less healthy, but also makes it harder for you to become healthy, right? So to me, that is kind of the problem that is always in my mind, and it's also the reason I wanted to join BC BIG, because in this perspective of health, everything that may not be obviously an obvious health intervention, is in the end ultimately a health intervention.

So if I work, for example, on things related to access to child care, that means that I will be able to relieve parents who have difficulties finding child care so they can actually have less problems or more time or more health insurance so everything really boils down ultimately to health. And that's why BC BIG is for me, like the best place to be because I can do health in a lot of other things that are not obviously health related.

APPELT: Yeah, so there's a lot of both direct and indirect ways to influence health.

ISHIKAWA: Yeah, yeah, yeah, absolutely. Everything that is there helps reduce inequalities, in the end, it's a way to improve the health of populations. And that's basically, that's the number one problem that is always in my head when it comes to health.

APPELT: Yeah. Well, that's such a big one. Well, kind of digging in a little to some of the specifics, I think you've worked on a number of areas, including like child seat safety and, do you want to tell us a little bit about some of those specific problems?

ISHIKAWA: The first one that comes to mind is one project, most related to child injury prevention and again, it's one of those moments when they can have some counterintuitive recommendation that surprises people. So injury prevention, particularly among health professionals in emergency medicine, there used to be this idea that the emergency department visit for an injury to a child, is or was a good opportunity to educate parents about injury prevention, because an injury just happened, and it's a health care setting, and so it kind of makes sense intuitively, so a lot of resources have been put in place in emergency departments to educate parents about injury prevention, courses, etc. And then at some point, one of the studies that I ran was, well,

the thing is that if people in general tend to believe that these injuries are more like accidents or luck events, then is that subject to the same biases that people have about luck and probabilities? So basically, try to study, if it was true that the emergency department visit was a good opportunity to educate parents because I thought there's a chance that there's negative recency, right? So the injury just happened, what are the chances that another injury happens? So maybe that's the last thing the parents are expecting, especially if they think that those are just pure chance events.

And indeed we did like a longitudinal study when parents came during the visit and say, ok, so what are the chances of your child getting another injury? And then because this study was longitudinal, we were able to ask people a month later, so, ok, what are the chances of the child getting that injury now? And then four months later and then 12 years later, and sure enough, we found evidence of negative recency, meaning that they, when they least expect it, they need another visit to the emergency department. So that was an interesting way of information on, you know what? Maybe, maybe it is not true, maybe we shouldn't have spent all this money and resources educating parents because that's not the time they're expecting or thinking about, the child, is at risk of having a larger injury. So we're kind of suggesting moments like when the child comes back to the cast removed, that's when you talk to the parents about injuries or a follow up visit. So that's kind of one example.

APPELT: I was just going to say that reminds me of like whenever you're walking with someone and they trip you say, oh, be careful. It's like, well, they just tripped. So maybe wrong order of operations.

ISHIKAWA: Totally, totally. So yeah, I probably could have used that example to present that because there's a lot of tribulations about that study specifically that I could tell you about later on in this interview. So that's one. The other studies that I was involved heavily were also related to play, and patterns, perceptions of risk. That's, I'm talking a lot about child health, apparently, because that was my block at the BC Children's Hospital. And the notion that a parent's job is to make sure that their child is as safe as possible, and it's been kind of around in our culture to the point that actually some years ago, we had some, the phenomenon of helicopter parent. They're like, you cannot do it, you cannot do that. And we're kind of investigating what are the effects of depriving children from opportunities to engage in healthy risk-taking. So we've run up a lot of different studies on parents' perceptions about risk and what do they consider to be an acceptable risk. How do they balance engaging their child in some risks while at the same time having the need of protection? So we've developed some instruments, psychometric instruments to measure those two dimensions.

We also studied how much, for example, parents curb their risk-taking so that they are more willing to take risks for themselves than they are so compared to other children, something that ended up being super relevant these days for COVID, because now we're getting vaccines for kids, and now what we're seeing is that there is less willingness to take vaccines with children five to eleven compared to adults, and in many cases, this is anecdotal, of course and we're still kind of trying to collect data on that. We're seeing some parents are saying, why are you asking me to vaccinate my kid? I saw you or you told me to vaccinate my kid, vaccinate myself to protect my child. So I can take the risk, it's a no brainer for me, but I don't know if I want to take the perceived risk with my child, so we're going to see that discrepancy. So it's an interesting role in terms of understanding how parents perceive risk and whether or not they're willing to let the kids take some certain risk under controlled circumstances.

The other interesting study, or a rewarding and interesting to me, is when we work with some landscape architects in collaboration to try to change a little bit the design of playgrounds in different locations in Vancouver to make them more engaging, right? Because part of what happens in this culture of making things as safe as possible for children is that we have now these schools, have these playgrounds that are with these rubber mats, that are extremely boring for kids, and what you see is actually the way they compensate for that

is that they do all these crazy things. So you will be seeing them running on top of the monkey bars, right? Doing everything that they're not supposed to do with the equipment that is involved. So we're trying to kind of give them more opportunities for creative play and free play, but at the same time, a little bit of risk and whether or not that has effects on their own ability to make decisions, their mental health and obviously their physical health, which is kind of the most important. But that was probably the most interesting one because we saw not a lot of increasing physical activity, but we saw increases seen in mental health for these kids just by the fact that they were allowed to do free play and engage with nature.

APPELT: It's interesting to think about like, you have to let them take small risks so they can avoid big risks. Like if there's no risk, then the first time there's risk, we don't know how to handle it. Scaffolding learning like we do with, you know, in school or with anything else.

ISHIKAWA: And yeah, and it's curious that it's not part of the curriculum, right? And maybe it should be part of the curriculum, developing this ability to make decisions and deal with risk.

APPELT: And so I'm wondering, there's, you know, some obvious common threads in this work. It's all work with children's health. And I'm curious what you think makes public health such a good fit for BI? Why is BI often a good part of a solution for public health problems?

ISHIKAWA: I mean, the obvious portion of it is the fact that a lot of public health problems require behavioral change, most recently wearing a mask, keeping distance, right, ventilating your place of living, and getting a vaccine. So all these things are pretty much the, I would say, the brick and mortar of a public health practice, and usually those are the problems that, in public health, you deal with, most of the time because of the biomedical portion of public health is kind of already solved, but in the end is reliant on what other people do. So it doesn't matter that we have the best treatment for breast cancer, we need people to go and get imaging regularly or consult with doctors. So there's a intrinsically, this is perfect because behavior is at the center of pretty much every health policy that is available. What changes is kind of the tools that public health may be using to change that behavior, but that's a portion of what we do as BI people in public health.

APPELT: Yeah, and it's so interesting because like you said, it's behavior can lead to preventing certain things, whether it's an accident on a playground or not getting screened for breast cancer. Then also, it can be part of the treatment as well. So, something has happened, how we respond, not just taking getting surgery, but medication adherence or changing our diet. So it's like you said, behavior is at the heart. It's before, it's after it's during. It's every part of public health.

ISHIKAWA Yeah, it's every part. So that's what makes it a perfect system in that sense, right? What I think is interesting is that, it's hard to try to think of BI more in terms of we are also just a part of a larger system that is in place to try to improve the health of populations. Because in public health, I mean this is also kind of obvious, that there's a lot of showing, not a lot of, like... mask mandates. That's a show, right? Or vaccine passports. Those are like hardware approaches, or seatbelt mandates, right? But at the same time, sometimes the law doesn't work completely, so booster seat is one example of this.

So in Canada, pretty much every province, except Alberta, as far as I remember, has a booster seat law basically meaning that children 4-8, around that age are supposed to be using one of those booster seats, more like a child of school age kids, and it's mandated. And yet, the rate of use in Canada are pretty low, like maybe 60 percent. And if you compare that with food for infants or toddlers, that's like 90 percent. We have a law, but still people don't really use it, so there's, when we as BI people can, oh no, let's understand why this is happening. Let's try to see what are the barriers that people may have. Usually a part of my research that I did on boosters seats, there is a notion that it's not necessary for kids to use, and it doesn't really add to the

safety, so that's why parents don't really use it. And the reason is because there is a tendency of parents, or in general to believe that the function of a seatbelt is to prevent ejection, right? And it's kind of like you will see in movies as well, right? So movies whenever you see two guys struggling in an action sequence, the guy unlocks the seatbelt and the evil person flies through the windshield, right? Which is true, but is not, I mean, this is not the whole story.

Seatbelts actually redirect crash forces to your ribcage and your pelvis, which was the anatomical structure more likely to withstand those forces. So the problem with a kid five or four to eight is that they're too little to wear this seatbelt correctly. So it basically sits on the belly or across the neck. So if you really understand, oh, seatbelts actually redirect crash forces, so it shouldn't be on anyone's belly. And that's a reason you need a booster seat because basically lifts the kid and makes sure that it's across the hips and chest. But people don't really understand that idea. So in order to encourage booster seats, we need to kind of promote this. That's the BI part. But even if the law, if it's the law, could have been 'I don't really see the point, I disagree with this, and this is a cash grab'. No, no, no. Actually, there is a safety point, too, and this is the reason. So and that's again, another place, perfect place for BI to say, yeah we can, we can do something about this.

APPELT: Yeah, really fertile grounds for yeah, you can even just think the name booster seat is a bit misleading because, it's like boosting them up. But for most of us, we're like, well, who cares if they can't see out the window?

ISHIKAWA: Yeah, yeah. Absolutely. Especially because, I mean, because I am not, English is not my first language, I didn't really see that until I was in a restaurant with friends, with family, and then the server came over and said, do you want a booster seat for the kid? It's like, oh, that also makes sense. So, so yeah, language is important in, how you put it, how you present information and what words you use make a difference.

APPELT: Yeah. So interesting. Well, I feel like we've gotten a good feel for some of the projects and the potentials. What have been some of the highlights for you about working at the intersection of BI and public health?

ISHIKAWA: Oh yeah, well, besides the fact that you are actually doing something that sometimes you see the effects very clearly, I mean, it feels great to be in a field that kind of helps people and also helps reduce inequalities up to a point that I can.

From a resource perspective, one of the highlights is that public health is a data rich environment and is something that is always, now that I am kind of full time working and thinking about BI has been something that has been on my head is, should we try to push for something like that? So, but this is what I mean. In public health, data is natural to the activities that people do in public health. There is actually a federal agency, CIHI, dedicated only to, the Canadian Institute for Health Information, dedicated only to collect data and to make recommendations about collecting data. But everything, every time you interact with a doctor, hospital, there is some information that it gets registered and that information is then aggregated and accumulated and that's how they produce all these reports about the incidence of this disease or the incidence of this, and their relationship with the socioeconomic status. So it's amazing, the amount of data, so it's really, it's pretty much a playground for anyone who wants to analyze. So that's one of the highlights and it's, basically it's ingrained in everyone in public health that you only need to collect that information. And I know, like in BI, sometimes we struggle about that, collecting data. So in that sense, there's kind of a breeze. So that's one of the highlights then. And sometimes people wonder if there's something we can incorporate in BI, so we don't have to do all the data collection so often.

APPELT: Yeah, that sounds amazing. Yeah. And I think like you said that kind of part and parcel with the data is that because there's randomized controlled trials and experiments with other parts of medicine, it's not as far a step to say, OK, let's do a randomized controlled trial on behavior. Whereas if you're talking to Ministry of Education, not just, you know, pulling a ministry out of the hat, where they don't do randomized controlled trials, then you have to do all that background explanation, whereas in medicine, it's, RCT, oh yeah, we know what that is, we do them every day.

ISHIKAWA: It's the bread and butter. So I think that's probably the best highlight of the work in the public as a BI person.

APPELT: Well, on the flip side, I'm sure it's not without challenges, but so what are some of the challenges in working in that area?

ISHIKAWA: Yeah, yeah. There's quite a few. I want to divide it in pieces like the challenge of, in order to make a difference or have an impact is that a lot of the problems in public health are not intention-action gap. So a lot of that is just getting things right. So the booster seat example is a good example of this. People don't even think that's important, so how do we get them to the place where actually they have the intention so we can maybe add some nudges or something to bridge that gap?

So that is challenging because sometimes it's harder to think of a touchpoint, so you don't really have touchpoints, right? Or if you have touchpoints, the touchpoints have some limitations. So for example, let's say that someone develops an app to encourage people to engage in physical activity, right? So people who download the app and install it in their phone are already interested in doing that. But sometimes we just want to get the people who are not interested and the people who are not going to download, so how do we reach that?

APPELT: Yeah, I was just going to say that goes back to your point about when kids are in the hospital with an injury, it's a touch point, but it's the wrong time touchpoint. And like with a lot of medicine, by the time you see the doctor, it's already happened. You want to get that before then.

ISHIKAWA: Yeah, yeah, yeah. So that is a challenge. So a lot of what I ended up doing was more like, kind of in the realm of risk communication. The potential advantage is that if you're really in an area where you can influence actual policy, then maybe you will be able to create some touchpoints by requiring people to do certain things, like when you were in government, you need to register for action. Okay, so you create a touchpoint operated, but yeah, sometimes you don't have the authority or that power so that that is one of the challenges.

The other challenge that is more in terms of the process, not actually to make a difference in people's lives, is the relationship with the immunologist and public health people. So one challenge or barrier to have a good relationship with them is language, because, for example, we talk about RCTS, and yes, we in public health and BI agree that, oh, RCT, they're great, they're awesome, we should do more of those. But what they have in mind, what an RCT is, is really different from what a typical BI RCT is. So sometimes that creates confusion because we talk as if we're talking about the same thing and then, wait a minute, this is not what we normally do. So I encounter several times, for example, when I present an RCT that is more like BI and creating policy, they'd be like, no, this is not an RCT. I mean, it doesn't really have all the requirements that typically a person in public health would expect an RCT to have, but has the essential elements of basically randomizing and ensuring that the two groups are equivalent so you can actually draw causal inferences. But that kind of creates, sometimes people who are not really interested in them, they would just assume that, oh, you guys don't know how to do RCTs. So that is a challenge. So sometimes it's just working on the language.

The other portion of it is something that actually I recently changed my mind, it is that I never-- I perceive that there is, or used to perceive there is a lack of interest on the part of public health epidemiology people to learn about BI, even though it's like the most relevant thing on this journey. And it was always a struggle to do that because when I was writing papers, for example, I always had to chop the theory portion, and the theory is probably the most important thing. And I had to basically learn how to write and to explain, for example, negative recency in like a one sentence. Otherwise, people would just be lost, like no, I don't want to even read this. And turns out that, I mean, these days I understand, because now that I am full time in BI I have similar interactions, where I'm like, oh, this thing in public health would be interesting and I can just listen, OK? But I do understand because if someone has a research program, has a way of seeing a particular problem and has been working on that and it's working well, but also you're having a couple of studies running and somebody comes in, oh, but you can just do... see the same problem from this completely different perspective. OK. No, that's interesting, but I need to work on my thing. So these days I don't perceive it as lack of interest, it's that this is really understandable that people need to continue in the research program. So one of the challenges I'm still finding, how do we kind of get those two connected together so we can actually collaborate? Because to me, the synergies are pretty evident but that makes it a little bit harder.

APPELT: Yeah, yeah, that's really interesting because like you said, in some ways it's like, oh, thank goodness, we all speak the same jargon, but then when you dig in, you notice that we use the jargon differently. And then also there is that like, you know, we all get a bit of tunnel vision on what we're doing and that there's that pressure, and I think a lot of career type goals reward your specialization. And when you branch out and do things that don't fit neatly into the little box, you might have trouble publishing or it might not be recognized. If you're someone who's up for tenure, it might not be recognized towards tenure. And so I think anytime you're doing interdisciplinary work, it's got to be more self-motivated because some of those other things, you know, they're harder to show people the value, so that's something I've seen as well.

Well, I'm curious because you have been working in this area for a lot and you've mentioned that your own perspective has changed a bit now that you kind of reweighted how much is public health, how much is BI. So have you seen the intersection of BI and public health change over time? Do you see it being used more, less, differently?

ISHIKAWA: No, I definitely see that it's being used more, particularly in public health. I would say, like maybe even five years ago, if I did a search on specifically PubMed, you would rarely see it, or they would be the same thing that I did, which is, mention it on the side but not explicitly, no, this is a BI intervention, and it's BI and it's based on these ideas. So definitely I see a lot more, still under-represented and specifically in public health journals. I was talking about like a JAMA, like a Journal of the American Medical Association or The Lancet or Preventive Medicine, kind of like the main journals. Still limited, and when it's there still just a hint. Not really full explanations or not explicitly clear as BI. So, but definitely I see more people are trespassing onto this area and just trying to take over a little bit of the territory because I think this is really important to put out there. Other than that, most of the stuff still gets published more like BI native journals. I mean, I said, it's challenging, right? Really I think it's important because whenever I talk to someone and I finally have the opportunity like, oh, this is amazing. Yes, I know. That's why we need to get more of this work. So, yeah, it's a hard road but definitely it's getting there.

APPELT: Yeah, yeah, certainly. I mean, I'm not specific to public health, but just more broadly, I've seen, like you said, kind of the last five years, last seven years, it's been-- it feels like the momentum is getting to a place where, like you said, it's not just putting in a little dash, a little taste of BI, you can actually put in like a bite, a real bite, not just to taste. Maybe isn't the entree, but at least it's an appetizer now.

Well, changing gears a little bit, another topic I thought we could touch on because it's a recurring theme in our program, and I know it's a mutual interest of both you and I is BI ethics. So I know you've thought a lot about this, and I love to hear your take on why it's important to consider ethics when working on BI and behavior.

ISHIKAWA: Yeah, I think there are two answers to that question. One is very personal because at some point when I was working in the financial industry, I am embarrassed to say that I was required to do things that I didn't consider to be morally acceptable, and the pain is excruciating. I absolutely hated it, and actually, it showed in my health as well. So, one thing that I've always been careful since then, like, I'm not going to do anything that I find it morally or ethically objectionable and just try to make sure that that's a core thing I do in anything I do.

So the other part of the answer to that question is also that, because I grew up in Colombia and I saw thousands of NGOs, most of them international, trying to do good, but not really, right? So there's also the kind of thing that, they were like, this is a good thing. Like no, it's not. And this is why and it would be really difficult. So for me, the question about trying to make a difference or of course, a good difference, is sometimes not as easy to say this is the right thing to do, it's not very easy. So that's why I was always trying to think about, is this the right thing to do? And that's why it's so important for me.

APPELT: Yeah, that really resonates with me. I was once on a consulting project where I had to stop working on it because, similar to you, I was just like this is crossing a line for me where I feel like we've gone from pushing, nudging someone to do something for good to perhaps it's more about making the organization money rather than... so yeah, that definitely resonates. Your internal compass goes off. You know when that's happening.

So what are some of the key considerations when you're evaluating whether a project should go forward? What sets your Spidey senses off or what are your decision points?

ISHIKAWA: Yeah. To me, like the main one is whether or not the intervention is considering socioeconomic inequalities or inequalities in general, which just goes back to the beginning. That's kind of like my main thing. In particular, what's something that in particular is called like the inequality paradox and how sometimes certain interventions end up having more impact on people who need it the least.

One example that comes to mind is not necessarily BI but it's one of those examples. The Harper government at some point had this healthy childhood grant, so people, families who enroll their kids in some sports program would be able to claim a tax refund. But the sport had to be a formal sports program and the person has to get receipts from it and it would be authorized. Some family doesn't have money to pay upfront for that, and they're just running with their kid every afternoon. They're not getting the receipt and yet they're doing what they're supposed to do. So in the end kind of increases again, inequality, so to me, that's alarm number one. Anything that that has a chance of increasing inequality rather than decreasing it is, for me, a big red flag and something I try to fix.

The other part is, this is kind of hard to explain and I'm probably about to give a silly example, is, if the intervention, we haven't consulted with the people who are going to be most affected, that is also a red flag. But a silly example is, going back to the car seat. So if we have a mandate that all these kids must be in these cars, and those are big things. Like they occupy sometimes pretty much the whole backseat or half of it. So if you go to like a rural First Nations community where there are four cars in a 100-500 people community, they are sharing all the time, carpooling all the time, and they basically have to drive for two hours to get to town, to get to appointments, so basically they just jump into the car, oh no you get a fine because you don't have

your kid in a seat. So understanding those circumstances is key to actually do the right thing. And I think that those would be to me, the main flags for an intervention that would be... that we need to stop and rethink what we're doing.

APPELT: Yeah, absolutely. I think that is the, specifically the second one where we're thinking about something where it's like, I always think of the difference between like using just a blunt tool versus something that's tailored like some solutions, like a mandate, it's just very blunt and it doesn't take into account different people, but I think behavioral insights is slowly moving to the point where we try to see if we can do different variations for different subpopulations. So I have hope that as a field, we're getting better and better at that.

ISHIKAWA: Yeah, definitely.

APPELT: Well, I noticed that we're drawing short on time, so I'll ask you my famous second to last question, which is do you have a message for our BI practitioners in training?

ISHIKAWA: Yeah, this is something I've been thinking a lot, and it also goes back to the notion of theory being important. One of the things that I find amazing in the world of BI these days is how easy it has become to develop an intervention. And I think I attribute that in part to BI's EAST model, right? It's so practical and so easy to the point that you could develop a really effective intervention without even worrying about theory at all. And that's an important thing to stop and think, because we don't want to go back to this black box, input output model. We just that, we don't really even think what happens inside people's head. And I think the message would be just keep reading theory. Practical tools like EAST model are awesome, but don't forget that the underlying theory is probably the most important thing that is going to help you develop even better interventions in the future.

APPELT: Yeah, I think that's a really good one. And I think because we have the benefit of our nationwide steering committee is something that the certificate really took to heart is a lot of these really short one day, two day boot camps, you get your EAST deck and go and have fun with it. But that's not a very responsible way to BI. So we want to understand how things work and why they work and when they won't work. And going back to your ethical point about, just because it worked one place doesn't mean it'll work with another population. So understanding the theory helps us understand a little bit more about all of that and do BI more ethically, so I think that's a great one.

And then for my final question, just any last thoughts, anything I didn't ask and you wanted a chance to say?

ISHIKAWA: The only thing is, if there is anything I think I really missed, there is many things other than nudging to BI. I think precisely because there are so very few touchpoints in health, that's why it kind of got forced to think, okay, what is out there that is BI that is not necessarily a nudge. And that's how I ended up working in boosts and trying to not necessarily nudging people but increasing that ability to make decisions. That's probably a dangerous and treacherous road. I do remember at some point Max Bazerman one of the JDM conferences had kind of like a confessional thing about the bias in it and how it was a total failure. So like, also being careful about what you said, is it a boosting or a bias, in that sense that Max Bazerman mentioned. So yeah. We need to start thinking about that if we are going to go into at least public health when there are not many touch points that you can leverage on that.

APPELT: Yeah, I think that's a good point. We often, just because it's easier, talk about nudging but we need to remember that nudging is just a chapter in the book of Behavioral Insights. There's a lot beyond nudging. That's a great last point.

Well, thank you so much for joining us today. I think the application in BI to public health is not only important, but also just so fascinating, and it's interesting to hear about it from you. So thank you for joining us today.

ISHIKAWA: Thank you very much. It was a pleasure talking to you.

APPELT: Yeah. And thanks to our listeners for joining us for another episode of Calling DIBS.