

Niveen Abi Ghannam 0:02

Hello, everyone. Today we have two professors in science communication, who had a recent book published strategic science communication a guide to setting the right objectives for more effective public engagement doctors, John Besley and Anthony Dudo. Thank you both for being here. We will cover today some of the main takeaways from the book, as well as some of the main, you know, process that you you both took while you're writing it, which would be very interesting for Thai combined followers and subscribers. So let's get to it. First, one question we have is what is the top one thing that you'd like readers of the book to take away? Once they read it?

Anthony Dudo 0:56

Oh, that's great. The top one thing, I love it, right? So it's very, very macro here. Yeah. So I guess we want scientists and folks who support scientists, communication efforts, so like trainers, and all different sorts of practitioners in that space, I think to kind of increasingly acknowledge and grapple with the fact that communication and effective communication are different things. And, you know, effective communication, fundamentally, it's communication that's designed to achieve something to achieve in the way we think about is designed to achieve some sort of behavioral goal. And effective communication, it takes time, it takes effort takes commitment, it takes people resources, it takes planning, it takes forethought, and much of the substance of our book really is about helping our readers to begin to kind of develop a strategic mindset towards science engagement. So I think, I don't know if that counts is like one takeaway, but I tried to cram a lot in there. Yeah,

Niveen Abi Ghannam 2:03

that's a great TLDR. For. That's a really great way to put it, Anthony. Thank you. Let's think about the context of the book. So can you give us a brief overview or background on the context that have led both of you to decide, okay, we need to write a book on strategic communication in science communication.

John Besley 2:24

Yeah. So Anthony and I have been working together for it's hard to imagine for for both of us, I think, but about 15 years, I think I was probably either just finishing grad school or finishing, I would started my first sort of faculty job. And Anthony was finishing up. I had some chance to do some research on I've been studying an Anthony, I've been studying, we've both been studying Soros, what how people think about science, scientific topics, risk topics, public opinion about science. And in our in separate places, Anthony, it was content on myself here, we had this chance to start studying scientists. A couple of different groups have done surveys of of scientists, and then it got us into thinking but Well, yeah, it's fun to study public opinion about science. But it's actually turns out to be really kind of interesting to study how scientists think about the public. Because

ultimately, we think about all the research that people like us and our advisors and our friends have been doing. We want that research used. And so one of the things we realized is we started to study scientists, we got into the world of science, communication, training, scientific societies trying to and all these opportunities started coming up to really think about like, Well, how do we help scientists use the type of research that people like us and people like we the people we work with, had been doing? And and Yeah, and so we've we've now had, we had about 10 years of that we have diminished, started with some initial NSF funding. And we've been really lucky to get funding from from NSF, as well as some foundation, a number of foundations and be really generous to support us doing surveys to sport is doing many interviews, we probably surveyed 25,000 Plus scientists, we probably interviewed 150 Plus science, communication trainers, well, that's people who run scientific societies sort of communication efforts, whether it's scientific foundations, just had all these great opportunities to talk to people about how they're thinking about communication in the context of what we know about science, communication, research. And yeah, and so and so. And then we were started giving this talk that was sort of trying to sort of what we think science communication might look like, from from a research perspective, we know from sort of a practitioners perspective, we were hearing that like, when people think of science communication, they think of what we would call tactics, you know, don't use jargon, speak clearly. Tell stories, engage in dialogue. And that's what a lot of the conversations were about. But that's not necessarily until we were doing looking at that kind of stuff and research but really what we were looking at about and research is what we start to think about as well. What what are the actual what's, what are we trying to affect what When we don't use jargon, it's not just teaching people information, what's the sort of the outcome of not using jargon? What are some of the important outcomes of telling stories which, which also would affect? Which stories? Should we tell? We're having dialogue, but what's the effective dialogue? And so that's where we were starting to think about what the research might tell us in terms of what what are the outcomes, and ultimately, what we'll talk the objectives, what we'll call objectives, which we think of as like, you know, what do people believe or feel or how things are framed? And then yeah, and then and then we started to sort of we're giving this talk. And that talk ultimately turned into this to this book. I hope some of the folks on who watch this have seen one version of our talk. We've given it over the over the years. Yeah. And that led to the book. And that's that's sort of trying to bring together this sort of 15 years of collaboration and how we're thinking about communication right now, even though that, you know, it's a moving target, and it's continuing to change.

Niveen Abi Ghannam 5:53

Absolutely. And so if we are to kind of take a micro look at the details now, what would you say is your main purpose in this book? And

who is your main audience content, and also, what is the scope content wise that the book takes? Your

Anthony Dudo 6:12

purpose is, as a lot of what I mentioned earlier, I mean, it's really to it's designed to be like, specifically helpful to science communicators, whether they're books and stem themselves, or again, the folks who support them. And it's really about evolving and expanding how they, how they think about how they do their communication and engagement. But I mean, in the book, we're specifically introducing them really to kind of a framework that we have that reflects evidence, from, frankly, from theories and concepts and data across lots of different social science, social science, to social scientific disciplines. But also especially practices from within strategic communication, which is where John and I both have our appointments and strategic communication schools. In terms of the audiences, there's a couple different audiences who this book is really for. It's not meant to be like a popular psychology book. This has a very specific like, group of folks in mind. It's really primarily for the for the practitioners and the stakeholders who, frankly, are working every day to support science communication. So whether those are trainers or people who run fellowship programs are PIOs, at universities, or communication directors at science, professional scientific societies is the folks who are in the trenches thinking and doing things related to science communication all day. And so we're trying to reach them with with the ideas that we have in the book primarily. It's also for the scientists communicators themselves. And there's another audience to have, whether they are social scientists, or like PhD holding academics or policy folks, or whether they're grad students, folks who, like don't have expertise, specifically in science communication, and are finding themselves becoming more interested in it and needing to kind of learn a little bit about what some kind of big ideas are in science communication. So those are the main audiences. I think, John, am I forgetting anybody in those audiences? Does that feel right to you?

John Besley 8:17

feels right to me? Yeah. I mean, we really hope people will use it in some courses, we really hope people who are willing to use it for their own sort of self directed courses. I mean, it's really there's lots of great books out there on how to on tactics on how to talk to the media, that sort of, and so we wanted, and there's lots of great books out on the sort of the history of science comm and some conceptual stuff around the ethics of science comm. What we thought was missing, we hope we help provide a first crack at was the sort of conceptual way to think about the evidence base.

Niveen Abi Ghannam 8:47

Yeah. And so what is the scope that you have included? content wise? So what would readers expect to find in terms of the topics covered?

John Besley 8:57

Yeah, and so so that we so the core is, there's two really big bits at the core of what we're doing. So one is sort of this typology, where we differentiate behavioral goals, which we think of as like, what's the thing you want people to do in the world at the end of the day? So is it you want people to buy an Eevee? Car? Do you want policymakers to fund science? Do you want people to, you know, do you want people to choose a side kids to choose a science career, but there's like a really concrete behavior. So that was we differentiate behavioral goals. One of the tricky ones there is trust as a behavioral goal. Like sometimes the thing of the goal I want is I want people to not to not do a thing. So I want people to not oppose my new technology. I want people to not to not oppose a new funding for science or a new scientific bill. And so that what you really trust, which is this willingness to make vulnerable, but again, it's a behavior, right? You're not doing a thing. Sometimes the behavior you want is people doing a thing. Sometimes we want people to not do a thing. Sometimes the behavior want is the scientist so we believe in two way communication. Sometimes the goal is we want to Scientists to make better their own better choices about what they study or how they do those research. So we differentiate behavioral goals from communication objectives, which we think of as beliefs, feelings or frames, which if your fun, beliefs, feelings, frames, BFFs, really what we're talking was a value of beliefs. So so the classics are one type of outcome that you can get from communication immediately, is you we are often this are the default outcome for communication is teaching people some facts about science or some scientific fine, right. So that's a belief, but it's not. It's like knowledge is a belief, but it's not. We know from lots of research, that that's not that that's important. But it's not everything. It's not the only communication objective you can pursue. So the first chapter is going to be the second chapter, or anything with that. The first chapter is about goals. Can you remember actually now which chapter is one of the early chapters is about is about goals and the idea of strategy overall. And then we get into these chapters about objectives. So the first chapter we talked about is the objective of sharing science knowledge is super important. We all too often in science, communication, people, we're, we're sort of like, Oh, that's not we know, from lots of research that teaching people stuff isn't, doesn't have that much effect. That's true. But that doesn't mean it's not an important objective. It's not, it's not an important thing that we need to think about. But from there, we said, well, what are some other objectives beyond just teaching people facts. And so we, we have each chapter is essentially a type of objective, that we have a set of chapters, which we might think in that trust space, and say, of trust is the behavior of making yourself vulnerable. There's also what we might call trustworthiness, perceptions, or beliefs do you think somebody is carrying which we might carrying the social sciences use different words, but they might be benevolent, that might mean warm,

that might mean something in there. So there's a chapter about that objective. There's a chapter about integrity beliefs, one of the things you might want to do an objective you might have is for people to perceive you as more as having integrity. Or you might want to find out about other people's integrity, if you're, that's your objective, if you're trying to affect yourself, which again, goes by lots of different words. But authenticity is kind of in that integrity space. And that's where you would go sort of go through there, there's an integrity chapter, there's a willingness to listen, which is sort of like cognitive empathy chapter, there's a perceived shared values chapter, there's a perceived competence, expertise chapter, and those sort of fill out that sort of five chapter block on trustworthiness perceptions, which you might seek to proceed to, to think about. And each chapter we talked about, well, what's the research on the concept itself, the what we know about how to achieve what kind of communication tactics kind of communication efforts might be needed to, to have that type of effect, as well as if you had that type of effect, what kind of outcome, which is to say, what type of goals would that help you achieve? So we have those chapters that ultimately comes out of it, for the your nerds out there, if you look into the integrative model, organizational trust, plus fairness theory, plus a couple of other sort of trust related theories, that's sort of like underlying that. And then we get into the set of three chapters that come from theory of planned behavior, or the integrated behavioral model, which is to say the behavior change models. So we have a chapter on risk benefit perceptions, which often people just think of as generic attitudes. But we really prefer to use the language of evaluative beliefs. And so risks and benefits, type beliefs and other type of outcome, you can try to affect your communication, a chapter on normative beliefs, which again, another type of objective, you can affect your communication, and then self efficacy beliefs. And then we finish up with the chapter on on frames and emotions. And then we get into sort of future research. But really, the key is that each chapter is like, here's what we know of what a potential objective, a piece of the pantry, a thing that you could pursue, to try to, you know, ethically where it's ending, we talk a lot about ethics, we talk a lot about, like, it's we're not saying that people should try to trick anybody into developing these beliefs. But each chapter is sort of an outcome that you might affect, you might want to prioritize when you communicate. Yeah. And that's, that's really the core of it.

Niveen Abi Ghannam 13:55

Yeah, and I think, yeah, go ahead and

Anthony Dudo 13:58

pick up on that real quick, Niveen, if I could just like, a lot of this comes back from it's a combination of things. It's, it's, it's really well established theoretical work that's not just focused on science communication. So like John mentioned, integrated behavioral model, and also combining that with the 15 odd years of data

collection, you know, we have been working on in this space to both qualitative and quantitative and things that we've learned from that data, and things that we've heard and observed through our multitude of conversations with with people in this space, right. And, and so I really think of it as you know, when you think of kind of the scope and the things that we're digging into, and focusing in on the book, what we saw out there, you know, to be root to really narrow it down to something simple as we saw, like a very limited kind of menu. Communication, right, where it's like, it's very much focused on like, I am going to inform somebody, I'm going to educate somebody, and I'm going to think right away about Like what tactics not that they're using that word, but like, what can we what communication things can I do to actually get that information transmitted. And again, like John and I, it's like, it's, there's nothing wrong with that. But that's the equivalent of like, you know, like, eating like the same thing over and over again, every single day where it's like, well, no restaurants have broader menus than that. And the same thing, it's the same thing for communication, as well. And that's one of the things we're trying to accomplish in the book is to give people like a broader, more expansive framework for what science communication can look like. It may be that you are going to focus on the objective of informing or, or building knowledge, based on what your goal is, but you have to think about what your goal is, first, think about what objectives will help you get to that goal, and then think about what tactics will help you get to those objectives. So the book really focuses in on those objectives a lot, because for us, that's the bar like a little, you know, like methodology language, like those are the key mediators, right? In this model, so to speak, like, that's where the magic happens. That's the black box of communication. It's really messy in there. But it's also really important. And so that's why the book is largely focused on those objectives.

Niveen Abi Ghannam 16:13

Wow, that's very helpful. And actually, it also answers my next question, which is, what is the process by which you decided what information to go in the book and how much of it was based on existing research versus your own research and observations? And I think you covered that. But I want to give you the chance to see if you want to add to that, in terms of how did you go about collecting that information and collecting it and making it turn into a book?

Anthony Dudo 16:44

Well, John had sabbatical to get the book started. definitely helped.

John Besley 16:50

But one of the one of the things that we've been doing so we started out, mostly I'm a trust researcher. Right. So we started out when we were thinking about communication objectives, were thinking about wow, I wish people wish scientists would think more about it's not just about sharing knowledge, or increasing self efficacy or communicating

risk and benefits. But if you want to be trusted, then you need to make sure you're communicating your integrity and your motives and your and your that your willingness to listen. And so we started out sort of in that space, when you go back and look at our original study on objectives that Anthony and I published, it was very much focused on trust related objectives. But then we started and talking to so we, we've had this wonderful opportunity over the years to talk to so many people involved in science come so many trainers, so many practitioners. And so one of the things we're always trying to think about, you know, again, we believe in two way communication, we, throughout the whole process of, you know, these 15 years of collaboration, we've been trying to figure out, what are what is the sort of the limited set, or what is the right set of objectives we should, we should think about and so always listening to is that so somebody might say, Well, my objective is, whatever it is. So for example, the the Aldous center, wonderful training program, well recognised Training Center, you know, we've had lots of opportunities to chat with him. And he really chat with them, I think, the, the objective that they talk about, they talk about empathy, like they're trying to communicate, so that scientists are perceived as empathetic by their, the people they're interacting with, and not just perceive it, but they do that by making mean the behaviors is a is a tactic, right? By getting scientists to be more empathetic to the paper, Steven was more empathetic, which has sort of these positive effects of, of, and so we think, well click empathy. And so you get into you read the literature on empathy, and think well, do we need a chapter just on empathy, empathy? Well, possibly, but I also do some of my research on this research, procedural fairness, that's also about being perceived as willing to listen. And so one of the funny challenging fun things of writing the book was trying to think about like, what are things do we grip? Right, so? So yeah, and so this is our best crack at and you know, that the social sciences are challenging in that, you know, different social psychologist might call it one thing, communication researcher, you know, Mike, this, especially during the trust space, might call it another thing, even things like attitudes, right? So if I'm doing I'm a, you know, I work with risk communication community, they talk about risks and benefit, communication and perceptions of risks and benefits. In the other space, we might just call those attitudes. You know, it's so it's really so that we had to make a lot of choices about where to combine, we think we, you know, based again, and we think we ultimately use theory to do that. Thinking like you hear, and we spend a lot of time looking at the specific measures people used. Another fun thing is one group, I guess when we go back to that audience question, one of the things we picked up in doing this research was, there's lots of great research on concepts. And there's lots of good survey research on like, making sure that concepts are clear. We really wish there was more research on the relationship between specific tactical choices if you say some thing if you behave in a certain way, do you use a certain tone, if you how that affects specific objectives, that's one

thing we hope, you know, we're trying is one of our sort of side side gigs or side pushes, is trying to get our science communication researcher friends to do more applied research so that practitioners will well have more evidence base to choose from, we have concepts of tons of great concepts, we don't have as much we found, when looking at the research that's out there that really could say to that's clear to me and to a practitioner, that if you do, x, there is a good chance it will contribute to why

Niveen Abi Ghannam 20:38

Yeah, which is what I imagined. Yeah, like, there's what is the formula basically for success? In science communication? What are your top important findings? If you are to think about 1 to 3, things that you perceive as the most important thing to take away from the book? Or that maybe surprised you, even though you have all those years under your belt of experience in this research field? Did you get to anything that surprised you, out of the finding?

Anthony Dudo 21:11

I think I think I'll emphasize one that John just said, which I think was definitely one, which is when you when you set about trying to write a book like this, that, to some extent, pretty tried, like, goes out into the world spreads its arms really broadly and tries to pull in as much as it can from across a number of disciplines into this context. You're simultaneously fascinated by how much you find. And then as you really dig into it, and turn it into these chapters, you're then consequently fascinated with how many research questions people haven't addressed yet, right? And it's like, Whoa, oh, my goodness, we have a lot of work to do. You know, to John John's point earlier, so that was like, a big one for me. And I think this is an important part to our own thinking with this book is that, you know, there was, like, from our we weren't trying to write a book that like, is the final argument or like, rest, you know, what I mean? It's like, how can we put these ideas in this framework out there based on what we've learned from our own work and, and the social science more broadly, to really help be like a key catalyst to like, keep this conversation going and get people to wrestle with these ideas. And so it's kind of in that regard, we view it as kind of like a starting point, right, kind of like a challenge. And that goes both ways. It goes to wanting to do what we can to help make more accessible learnings from social science for people who are doing this work every day. At the same time, we're also trying to, you know, I don't know that challenge is the right word, but like, motivate social scientists, and certainly folks doing research in the science communication space, to be increasingly attentive to what are essentially the research questions of practitioners on the ground. Right. And having that help guide and prioritize the kinds of things that that we research.

Niveen Abi Ghannam 23:16



I love that. Yeah. I love that. It's kind of like both feed into one another, like, what practitioners questions and the work that they do. They have to be part of what researchers are doing and, you know, what impact do you hope to achieve in this book? And I think that you, mainly, you have addressed that to some extent, with talking about motivations of researchers and practitioners. But if you are to make that, yeah, good, John.

John Besley 23:55

Yeah. So So I think going back to where Anthony started, it turns out this being a strategic communicator, being an intentional communicator, being an effective communicators, is hard. And so the last chapter of the book is really about, okay, yes, it's hard. And we want a certain proportion of folks to become really adept strategists to really be able to people, but we also want other folks to like turn to the strategists to say, you know, that's a specific form of expertise, that, that I'm going to, I'm going to lean on and get help from those people. And so yeah, we want we we want it's a weird thing, right? We sort of want to increase one group, a sense of sort of self efficacy people like Yeah, I know, I can think about strategy and evidence based way. We also want people to think yeah, this is this is this is a real thing I need to sometimes turn to a strategy to it to a social scientist who is somebody who's trained in strategy. Go back to our food metaphors. We love food metaphors. You know, there's sometimes you're gonna I'm gonna cook some dinner for my friends. Sometimes you think, you know, this is this is I think We might need to get a caterer to you, sometimes you want to turn for her turn to help. Right. And so, I mean that. And we've been, we spent a lot of time talking to folks about strategy. And it's, it's, it's challenging, it's not, you know, we, our views keep changing on it. It's, it's just challenging. And so there's nothing in this books like this is, like Anthony said, this is not this is one way, we're sort of thinking about it right now. But this, this conversation is something that we hope, we expect will continue. And I

Anthony Dudo 25:30

think like, as you know, even broader, you know, in terms of like, if you look for some sort of grand impact, part of it is just, you know, there's a lot of activity, there's a lot of science communication happening, right? We, we and others in this space, continue to see that anecdotally. And through all the data that we collect, and that in and of itself, you can say is, you know, a good thing, right. But you know, just like any other area of frenzied good meaning activity, it's important every now and then to like, hit the pause button, take a deep breath, and take a peek at what you're doing and examine why you're doing it. And like, so part of what we're hoping, I think is to is to help motivate science communicators, and again, the people that who support them to, to have that deep breath and take that pause and say, Okay, I've been doing thing X for my science communication for how many years and to ask that admittedly uncomfortable question,

well, why are you doing that? Right? And it may be that you have this amazing answer, and you're like, I have a really clear reason for why I'm doing this. And here's how I know I'm doing it. Well, I'm blah, blah. Okay, cool. But and what we've seen a lot is when you ask that question, folks say, I have no idea why I've been doing this for the last seven years. It feels good. Okay, well, let's go further with that. So why do you why does it feel good? What do you know, and it's this kind of like, getting people to sit a little bit with that discomfort and be a little bit more critical in terms and kind of self aware of why they're trying to communicate science and the way they're trying to communicate it. And if more folks in this space, had that pause, and did that thinking, I think we'd feel you know, that we've achieved kind of a positive impact in some way, shape or form at the book.

Niveen Abi Ghannam 27:18

Yeah, thank you so much. That's a great way to kind of below currently express what you want out of the book. And I'm sure that it's, it's going to be very helpful for people to see all that footage in one place, because that's the struggle that people have with information all spread out and not knowing exactly where to look. But also this pressure that you need to decide who you are as a science communicator. And it's like what you were saying like this commitment that I am someone who gives knowledge I'm someone who engages or give our dialogues. And just seeing the variation in one place is hopefully very helpful. So thank you both. Anything you wish to add? Then just thanks.

John Besley 28:09

Thanks for being willing to chat. If people are interested in the book, they know we're easy to find. We're happy to we're happy to talk about it. We're happy to share it. That's part of we're lucky to have positions that let us let us do this sort of research and we're happy to share it.

Niveen Abi Ghannam 28:24

Thank you so much. All right. Bye. Bye. All right.

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