“Neuroscience for Global Mental Health” with Ilina Singh, Ph.D.

Transcript of Cerebrum Podcast

Guest: Ilina Singh, Ph.D., is Professor of Neuroscience & Society at the University of Oxford and co-director of the Welcome Trust Center for Ethics and Humanities. Her core research examines the psychosocial and ethical implications of advances in biomedicine and neuroscience for young people and families. She received a Wellcome Trust Senior Investigator Award in 2015 on the ethics of early intervention in child psychiatry. Since 2016, Singh has led a global collaborative project on the science and ethics of psychiatric genomics in Africa. She is the academic lead for Patient and Public Involvement and Engagement in the Oxford Health Biomedical Research Center and sits on the UK Research and Innovation Covid-19 Rapid Response Taskforce. Singh is also treasurer of the International Neuroethics Society. She received her doctorate in human development and psychology from Harvard University.

Host: Bill Glovin serves as editor of Cerebrum and as executive editor of the Dana Foundation. He was formerly senior editor of Rutgers Magazine, managing editor of New Jersey Success, editor of New Jersey Business magazine, and a staff writer at The Record newspaper in Hackensack, NJ. Glovin has won 20 writing awards from the Society of Professional Journalists of New Jersey and the Council for Advancement and Support of Education. He has a B.A. in Journalism from George Washington University.

[Intro] Ilina Singh: We have an existing population: Huge population of people globally who are living with mental illness; how would neuroscience get to help that? Trying to get people to stop thinking about mental health and illness as something you either have, or you don’t have, but thinking about it really more of a continuum. I’m often asked, how should I think about the ethical issues in relation to neuroscience in the context of the low/middle-income country challenge?

Bill Glovin: Hello and welcome to the Cerebrum Podcast brought to you by the Dana Foundation in New York City. I’m executive editor Bill Glovin, and we are very fortunate to have Ilina Singh on the phone with us. She’s the author of our recent Cerebrum magazine cover story, Neuroscience for Global Mental Health. Well, Ilina reflects on her experience on the Lancet Commission on global mental health, and gives some of her observations as co-director of the Wellcome Trust Center for Ethics and Humanities at the University of Oxford, where she also happens to be a professor of Neuroscience & Society. You can find the Ilina's article and all our cerebrum content at dana.org. Welcome to the Cerebrum Podcast, Ilina, how is COVID affecting your work and your world?
Ilina Singh: Thank you, Bill. Hello. It's lovely to be on your podcast. Well, COVID has actually made our world, well in addition to very much more complicated, we've also had a lot more research projects come through, because as you probably are aware, mental health has been a huge issue for lots of people during the COVID lockdown. And so we've actually had a lot more research projects starting up looking at mental health and some of the ethical consequences of being in what we call Bain communities, which is black and minority ethnic communities who are disproportionately affected by COVID in the UK and I think more generally in the world.

Bill Glovin: Let's begin with your interest in the field. What sparked it?

Ilina Singh: Well I started out, as I say in the article, as somebody who studied Human Development in Psychology, which was a fairly broad church at Harvard spanning neuroscience, education, history, and philosophy of science and developmental psychology. And I really fell in love with the philosophy and ethics part of it and was never a great experimentalist, I would say.

So when one studies the ethics of the developing mind, one very quickly encounters the significant problematics but also the opportunities that thinking outside one's cultural box gives one. So I began to join a lot of the medical anthropology sessions on global mental health, and that really sparked my interest in this intersection of developmental psychology and ethics that I really have spent my career developing.

Bill Glovin: The technological advances in neuroscience, let's say an imaging and brainstem and drug development, are they reaching people in low- and middle- income countries?

Ilina Singh: No, I would say largely not. And that's for a whole variety of reasons that we lay out in the Lancet Commission on global mental health, the initial launch series in 2007, really focused on what they called closing the treatment gap in low- and middle-income countries. And that was really about the lack of access to services, the lack of availability to services. In most of these countries, there are a handful of psychiatrists for millions of people, and there are also a lot of competing understandings of mental health and illness and why people behave the way they do and what the underlying causality might be.

Ilina Singh: When we started meeting again in 2016, to look at how far we've come in closing the treatment gap, we realized that actually we hadn't done terribly
well. And that was partly because of a problem of implementation in low- and middle-income countries and just governments not giving enough funding to mental health in general.

Bill Glovin: I was going to ask you about the Lancet series as my next question, but you beat me to the punch. In terms of actually reconvening the commission, you said I guess it didn't do the job or. What was lacking? And why was it going to be better in your estimation, maybe this time around?

Ilina Singh: So I would say that actually the 2007 series in the intervening decades since it was published, it did a huge amount. I mean, it launched a whole field of global mental health that really didn't have the recognition and the traction that it has today. So when I say that we didn't meet the targets of that commission, it really was about trying to get more people to recognize mental health as a global part of the global burden of disease, and to bring treatments to those people in a whole range of treatment.

So everything from psychosocial treatments, to medication, and to other treatments. And so this time around what we did was we looked at mental health in the context of the sustainable development goals, and we wanted to position mental health really as a global development priority, thinking much more about population health, and how mental health plays into that global burden of disease.

Ilina Singh: So that was one thing that I think we've been quite successful in doing now. And then the second thing that I talk about in the piece I wrote for cerebrum is, trying to get people to stop thinking about mental health and illness as something you either have, or you don't have. But thinking about it really more as a continuum and the dimensional phenomenon. So throughout the life course, many of us will have more or less good mental health.

Some of us will be at the tail end of the distribution and have really severe mental illness problems. But what we want to do then as a strategic agenda of course is try to prevent those really severe mental health problems from emerging. And so the developmental model really allows us to think about early prevention and intervention over the life course. So there's, I think some of the major updates that allow us to position mental health in relation to the more general sustainable development goals which are of course about reducing the global burden of disease.
Bill Glovin: In 2016, we published an article entitled, “Making Mental Health a Global Priority,” which was co-written by Patricio V. Marquez and Shekhar Saxena, one is from the World Health Organization and the other from the World Bank. And they were talking about a $6 trillion initiative to bring mental health to low and middle income countries. Has that had any impact on other organizations that are getting behind the effort to expand neuroscience and mental health considerations into other areas?

Ilina Singh: Shekhar was a coauthor on both of the Lancet reports and so I think Ian in the WHO has brought mental health really to the full. There are developments at that level. WHO has certainly recognized global mental health as a major priority. Looking at it globally, I think that's really important for recognition and it's certainly important for policymaking guidance, but as we know WHO unfortunately doesn't have trillions of pounds or dollars behind it.

So that's really about getting policy makers to recognize in giving mental health globally visibility. We've also had the global mental health challenges, which the NIH has been instrumentally behind, and that's been really important as well in bringing research to mental health. I don't know that that's traveled well globally, but it's certainly helped us have a much better understanding about the mechanisms that can lead to severe mental health problems.

There was a new initiative, which is called the Human Brain Global Initiative, which is, as I understand it, I'm on the, really the fringes of this initiative, but I did hear about it last January in Davos. So this is really an attempt to get industry money behind solving the problems of global mental health. And I know that there is a great deal of commitment actually to look globally and particularly at low- and middle-income countries as part of that initiative.

Bill Glovin: How do we distinguish the neuroscience considerations from the mental health ones? Or are they just intangibly tied together?

Ilina Singh: Well I don't think they're intangibly tied together. I think people have to make the argument actually. I mean that's certainly what we found as part of the Lancet Commission that people will say, look we have an existing population, huge population of people globally who are living with mental illness, how is neuroscience going to help that? And people tend to think of neuroscience as being about fMRI machines, and fancy technologies that many people in the world contacts us and certainly people in low- and middle-income countries have difficulty accessing.
So I think where neuroscience is really key, is in helping us understand biological causation and thinking much more about pathways, for biological pathways that intersect with social challenges, with environmental challenges, what we call the social determinants of illness, so that we can begin in a sense to tell a story about development that moves between genetics, neuroscience, and the social world.

So approximately what kind of world you live in socially, but also environmentally, what else is going on in the world? Are there toxins? Is there conflict? Is there other structural inequalities? And you can bring all of that to bear in understanding global mental health. So I think neuroscience comes woven into a narrative and what things we have to do that very intentionally in order to make the argument that neuroscience matters in the context of global mental health.

Bill Glovin: In the article you talk about the idea that you thought they were bringing you into the commission to be sort of a sounding board on neuroethics, but then it didn't turn out that way. How does neuroethics tie into things?

Ilina Singh: I think neuroethics has become fundamentally important in thinking about how we've developed neuroscience in particular in a more ethical direction, how we think about the responsibilities of neuroscientists, but also how we think about responsible and relevant applications of neuroscience in a global context. Neuroethics and sometimes also there's a part of ethics that really thinks about neuroscience technologies.

Ilina Singh: So again, we come up with this idea that advanced technologies, so everything from brain organoids, to machines, to BCIs, to robotics, are not relevant to global mental health, but of course they are relevant in the sense that those kinds of technologies help us understand mechanisms which will help us better understand how mental illnesses develop.

So I think, and I'm not entirely sure yet how they do this because I think the neuroethics community also still needs to get its head around this, what we call sort of the technology divide between wealthier countries and poor countries, and how we can help in neuroethics think about how to make those technologies more available, more accessible, and more responsible and relevant to people who live in countries where access is very difficult.

Bill Glovin: Your article focuses a bit on Africa. But what about Eastern Bloc countries, and South and Central America, and China, India, and the Middle East, are these,
when you think about expansion, a lot of people think about Africa, but it's a big world out there. And what is the climate in some other regions?

Ilina Singh: Well, I focused on Africa in the article just because that's what we're doing our most current work, but we do have partners in India and we’re also starting a project in Brazil next year. I'm doing a little bit of work around China, not in China, but certainly around China at the moment. And I think the climate to both neuroscience and ethics in those countries is variable. The other complication is that in India for example science is incredibly advanced.

So, one couldn't say that it's a developing country in terms of its science or its tech, but it is a developing country in relation to it thinking about mental health. And in Brazil the same thing is true. We have some really fabulous neuroscientists in Brazil and some excellent biological psychiatry, world-leading biological psychiatry, but again, there's always a very big landscape and it's attention to and ability to grapple these issues around mental health, and particularly mental health in its indigenous communities is still developing.

So you might, it is a very big world out there and it's a very complex landscape. And one of the things I've found most useful in working in these countries is really to gather a group of local researchers, ethicists and scientists, and bring them together really to elaborate what the infrastructure needs are, what scientist's capabilities are, and what the local ethical challenges are. And that really seems to be the best way to make progress.

Bill Glovin: In that vein, have you traveled to Africa and elsewhere to see what's going on for yourself? Or are your findings mostly from talking to others or reading? And if you have gone anywhere, where have you gone? And what have you seen?

Ilina Singh: So I think one has to go, well, I can't say that in a COVID climate, can I anymore? And I know it's a climate challenge as well, which I think about a lot, but I think one ought to go and see for oneself what the conditions are because it's a real mind expansion. To start, I'm half Indian. I've been going to India since I was 18 months old. And I have been all around India, both with my family and as an adult independently. So I've done a lot of tourism there, I've done family visits there and I've also done a little bit of work in science, particularly in Sangath, in Goa where Vikram Patel created his amazing center there.

And in Africa I've been to most of the sites where we're working as part of the NeuroGenE project that I mentioned in the article. So we've been to several sites in Kenya, we've been to Ethiopia, to South Africa, and I had planned to go and be in Ghana actually this spring, but that of course didn't happen. And I was
in Brazil last autumn, it's probably the last big international trip I took actually, and I was in southern Brazil and a little bit in northern Brazil. And that was seeing actually biological psychiatrists, and psychologists and some ethicists in trying to get really some collaborations going there. And as I said, we have been funded to do some work there starting in January with young people around digital technologies and mental health.

Bill Glovin: For people who might not go to the article, maybe you can explain briefly what the NeuroGenE project is.

Ilina Singh: The NeuroGenE project is the global initiative for neuropsychiatric ethics that grew out of a partnership with the Stanley Center at the Broad Institute of Harvard MIT. And the Stanley center is leading on a project called NeuroGAP, which is really the largest population genomics project of its kind in Africa, trying to understand the biological underpinnings of psychiatric illness.

There're two branches. So one focuses on psychosis, and another focuses on neurodevelopmental disorders. Really it's a visionary project because it tries to correct the bias that we have in our human genomic data, which is almost entirely on Anglo and American communities and recognizes also that the greatest genetic diversity is actually in Africa. Scientifically, this is an extraordinarily important data collection effort, but it also of course ethically, a really important collection effort because we need to know what the particular needs are of communities to which we don't have scientific access in the sense of biological material access. When we don't have that access, and we don't understand those communities from a biological basis, we become less able to meet their needs in developing treatments.

Bill Glovin: Your article points out that you struggle to convince fellow commission members of the value of biological research into mental disorders. Why was that?

Ilina Singh: I really think it's because the present problems are so great. The commission is filled with extraordinary people. It's about 30 some-odd of us from all around the world. And many people who've spent their entire careers trying to address the problem of mental health in low- and middle-income countries. And what they would say is we have situations in which people live miles and miles from any hospital. Where they don't have in their native language, words for the mental health conditions that we take for granted. The DSM labels, where they can't buy medicines, they don't have internet access.
Their whole worldview around behavior, around emotion, around cognition is really different to ours. So how is neuroscience going to help deliver care to these people? And I think it's a very tall order for us to answer that question at the moment, it is a very tall order to say to somebody, if you could just get them to a hospital, you could stick them in a MRI machine and see something that would help us understand better how to treat them.

Now, of course that is very true for neurological conditions. So neuroscience is very relevant for those conditions. But mental health more broadly, I think that's a very difficult argument to make. And I think that's where on the implementation side, the implementation and delivery side of care, we still have to, as I said before, intentionally try to connect those dots for neuroscience to be more relevant in those areas.

Bill Glovin: Where do you see things in ten years?

Ilina Singh: In ten years’ time, what I really hope is that this great hope for digital mental health will actually have come to fruition. So two parts of me that respond to this, the digital mental health is the great breakthrough in global mental health. And the one side is hopeful. It says, yes, the vast majority of people in the world don't have access to mental health, but they do have access to phones. So if we could deliver care by phone, by tablet, by computer, and what have you, then I think we would make real progress in actually helping people get better.

Ilina Singh: The other side of me, I suppose the darker part of me thinks well, in one of the, and I say this in the article, I mean one of the big problems we have with a lot of digital mental health is that it's not the acts or the interventions come not to be based on what we know about underlying targets of mental illness. Because again, that's a very difficult thing to do, to build that into an app. What we essentially have is experiments that are all these digital, mental health technologies that are being created faster than many things, because they're so easy to create, and just cut out there in the ether.

And we also aren't very good at evaluating them, because we don't have a mechanism for amount of evaluation. So if you put a drug out to treat a condition like depression, it would go through a very, very rigorous series of RCTs, etc., before it was approved, but we don't have anything analogous under digital mental health world. So we run into a problem of reliability and validity. Compounding that we also have infrastructure challenges and so what we're finding with our African colleagues and to some degree also with our Brazilian
young people, is that they just don't have access to enough data to download the digital interventions that we want them to be trying.

The idea that, oh, well, everybody has access to the internet now, or everyone has a phone, is actually a bit of a misnomer. And in some places, it's a huge misnomer. So there might be one phone per several families that they share around. And there may be many days that go by when we don't actually have any internet service and data is very expensive. So we have to overcome those sorts of infrastructure problems as well as overcoming the scientific problem of actually creating reliable and valid interventions digitally for mental health.

Bill Glovin: A few years ago, I did a podcast and we did an article with Tom Insel who started a company called Mindstrong, which was working on smartphone technology to valuate depression, anxiety, stress, those kinds of things that hasn't come to pass yet, but I would think that eventually it will. And when it does, it's certainly going to make its way into the wealthier countries first. And as you point out, there will be a lag because there is limited access in these other low- and middle-income countries to even have most of their citizens online. So that seems like a huge obstacle, but for people interested in exploring the topic further, can you recommend anything in terms of reading or documentaries or anything at all that comes to mind?

Ilina Singh: Well, you've given me a bit of a cognitive prompt bill because you mentioned Tom Insel, and the most recent thing that I've had the pleasure of working with Tom on is the World Innovation Summit for Health report on digital technologies, which is part of a WISH foundation agenda, and that I believe is going to be published in November coinciding with the WISH Summit. And there we actually look rather more comprehensively at many of the issues you've just outlined because I've been talking about.

So in relation to digital mental health as a premise for solving the problems of mental health, I think that would be one of the more up-to-date pieces of writing that I can recommend if your readers are interested in neuroethics, and particularly on the technology side, the NIH neuroethics commission has been doing quite a lot of work on this in particularly trying to get the Global Brain Project to think about translation, responsibility, and other ethical considerations in their work.

And so, there's a series of papers actually that's come out in neuron, which I would recommend highly because that's a very thoughtful series of papers led by Karen Rommelfanger at Emory University. So I think sheds light on some of
the complications that are associated with neuroscience more generally, even on the tech side, in addressing global issues.

Bill Glovin: I rarely do this in a podcast at the end, but this is such an enormous topic that I’ve got to ask you. I mean, what have I left out that you deem important? Because this is too much to cover here.

Ilina Singh: Yeah, one thing just to say is that I’m often lost. How should I think about the ethical issues in relation to neuroscience in the context of the low/middle-income country challenge? And a lot of people know about ethics because of practical dimensions. So we’re all familiar with data privacy, and security, and confidentiality, and people think that’s what ethics is. And it is, absolutely that kind of pragmatic ethics the stuff that gets you through your research, ethics committees.

Those are important issues, but I suppose one area I would love to stimulate your readers to think more about are these more substantive ethics problematics that arise in a global context. And I hinted at them only briefly in the article I wrote for you, which is really about human identity, and how we think of ourselves as persons, and how do we take ourselves to be valuable in the world beyond ourselves, and how religious beliefs enter into that, but also spiritual beliefs.

And I think that those are really interesting and challenging questions that are a bit mind blowing actually if you take them seriously. If you think about some of the technologies that we are coming up with now, particularly advanced AI systems, and you begin to think, well, what is a mind? And how do I think about what constitutes a mind versus what someone with an African perspective might think about what constitutes a mind? I think it’s a really exciting moment actually to start thinking about those sorts of ethical questions, really for all of us as a community because they are going to impact all of us eventually.

Bill Glovin: Well, I think that’s a great place to end and I can’t thank you enough for your article called “Neuroscience for Global Mental Health” by Ilina Singh. And all of our content can be accessed at dana.org. I really appreciate your time and your effort. The article is just great. And I think people get a lot out of it. So thank you Ilina.

Ilina Singh: Well thank you, Bill, and thank you very much for the opportunity to write for you.