SAFE SPACE RADIO

INTERVIEW TRANSCRIPT | JULIANNE HOLT-LUNSTAD | AUGUST 20, 2018

DR. ANNE HALLWARD: Tell me your name and let me know what you do.

JULIANNE HOLT-LUNDSTAD: My name is Julianne Holt-Lunstad and I am a professor of psychology and neuroscience at Brigham Young University, and my research expertise is in social relationships and how they influence our health and wellbeing.

DR. ANNE HALLWARD: Great. So we are going to be talking about long term and social connection, and I wondered if who could start by having you define what does loneliness actually mean.

JULIANNE HOLT-LUNDSTAD: Yeah, that's a good question because there are a lot of terms that are used interchangeably, but they actually mean very distinct things. And so loneliness is distinct from social isolation. Social isolation is thought to be objective whereas loneliness is subjective. So social isolation is having few if any relationships or infrequent social contact, whereas loneliness is the perception of being alone. And it really is more the discrepancy between one's desired level of connection and one's actual level of connection. And so while being socially isolated puts someone at risk for being lonely, you can be lonely without being socially isolated. So someone can certainly feel profoundly lonely despite being around others. Conversely someone can be socially isolated but not feel lonely so they may actually enjoy their solitude of being alone and don't feel any distress around that. And both of these terms are frequently used terms that refer to a broader concept of being socially disconnected.

Being socially connected can refer to — well, I should say being socially connected is an umbrella term that encompasses the many ways in which our social relationships can influence and have been examined in the research in terms of their influence, and this includes structural, functional and qualitative aspects. So I know that sounds a little technical, but the structural really refers to the presence or absence of others in our lives. So this can include things like the size of our social network whether or not you live alone whether or not you're married. But it really gets at that presence or absence of others in your life. The functional aspects of relationships refers to either the actual or perceived resources that our relationships provide in our in our everyday lives. And then finally, quality refers to the positive and negative aspects of our relationships. And so this umbrella term of social connection encompasses all three of these. And each of these have been linked to risk or protection, meaning the more socially connected you are, this has protective effects, and the less socially connected you are, this is associated with risk. And, of course, loneliness and social isolation each one indicator of being socially disconnected.

DR. ANNE HALLWARD: And I want to understand something about functional. The way I was understanding reading your work is that structural, it's sort of a quantitative thing. You know, how many people are in your life or not. Quality was, you know, do you feel — how good does it feel to be connecting with people? How intimate? How close? How supportive? The functional piece I didn't really understand. You said the resources that you perceive to be available within these relationships. What do you mean by resources?

JULIANNE HOLT-LUNDSTAD: Yeah, so having someone that you can rely on, so whether this is actually provided or perceived to be available. It's whether or not, say for instance, you've got someone you can call on if you need a favor or you need a ride to the airport or an appointment, or need someone to take your kids for the afternoon or you need a place to crash for the night. Or, you know, alone. Any any sort of potential resource. These are just a few examples, but if you think about how many times you might need to rely on someone, having someone who can either objectively provide these or just the perception that they are available to you if you need them, can be a profound buffer against some of the negative health effects of stress.

DR. ANNE HALLWARD: Yeah, that really makes sense. So is it too simplistic to say that it breaks down to kind of number of people in your life, whether or not you can count on them to help you and whether or not you can count on them for emotional support? Is that fair?

JULIANNE HOLT-LUNDSTAD: Yes and no. So the quality part really can refer to both the positive and the negative aspects. So we need to keep in mind that not all relationships are entirely positive. And so whether that's conflict or jealousy or unreliable or insensitive, some of these negative qualities can occur within relationships. And those kinds of things are associated with risk. And then, of course, on the positive side, having someone that not only can be a source of emotional support, but someone who can share in those joyous occasions, that can celebrate with you when you have good news or that there's, you know, some life event or or maybe even just an everyday but kind of event. But maybe, you know, having a nice meal or a nice view, sharing it with someone can enhance the positivity of that experience by being able to share it with someone else. And so we shouldn't underestimate the positive aspects of that as well. So for instance one of my favorite — it's a Swedish proverb that states shared joy is double joy, shared sorrow is half sorrow. And so this idea that we also can gain a lot of positivity from our relationships that can be associated with benefits as well.

DR. ANNE HALLWARD: Yeah. So we're going to be talking about the health impact of social disconnection in a moment, but before you go there I want hear from you about how social connection and disconnection seems to be changing. I wonder if you can tell me, is this problem on the rise and if so how do we know what are the factors that play into that?

JULIANNE HOLT-LUNDSTAD: My colleagues and I actually examined this. And, I should first start by stating that given the different ways that we can define this, indicators of a lack of social connection could be found across any of these definitions. But it's also important to recognize that some are more routinely collected than others. And so, for instance, when it comes to structural aspects, these kinds of indicators are regularly collected through Census data. So, for instance, we know that there are declining sizes of households, declining rates of marriage. There are more people who are living alone. More people are more childlessness. And so these kinds of indicators are are are quite easy to find and are quite objective. So we have very objective indicators that these indicators of social disconnection are increasing.

What's more difficult are some of the indicators of functional and quality, because these are less routinely collected and can be collected in a variety of ways using different kinds of measures. So trying to compare them across time becomes a little bit more difficult. But there is evidence, for instance, to suggest if we look at say nationally representative samples there — and again this one is is more structural — but there is evidence that our size of social networks are shrinking. That when we look at things like social participation fewer people are volunteering, fewer people are involved in religion and therefore there's some data out of the Pew Research Center that shows that the majority of Americans no longer participate in social groups. And this is defined in a variety of ways, whether it be sports or social organizations like book clubs or bowling clubs. But the majority of Americans are no longer participating in these kinds of social groups.

When it comes to other kinds of qualitative indicators such as loneliness specifically, there is some evidence that this is increasing. But again it's difficult to compare across samples given that the many use different measures.

DR. ANNE HALLWARD: Maybe could you give me an example of how a person could measure loneliness? Like are these questionnaires that are being?

JULIANNE HOLT-LUNDSTAD: Oh yeah. One of the most frequently used measures is the UCLA Loneliness Scale.

DR. ANNE HALLWARD: What kind of questions does that scale use?

JULIANNE HOLT-LUNDSTAD: Oh. I don't have it in front of me so I hesitate to to try and do this from memory. But it does ask questions that more get more at the kinds of experience of loneliness rather than specifically asking are you lonely. And this is a point of debate in the field because some argue that you should just directly ask, “Are you lonely?” Whereas others argue against this.

So, for instance, I have a colleague who is a physician and she will ask her patients are you lonely and they'll say no, but then she'll follow up with items on the UCLA Loneliness Scale and they will actually score quite high on this. And part of this might be because of the stigma associated with this.

So I now actually have a copy of some of the questions. So, for instance, some of these are “I feel in tune with the people around me” or “I lack companionship. There's no one I can turn to. I have a lot in common with other

people. I feel left out." So these are just a few examples of these. Here's another one. "There are people I can talk to or there are people I can turn to." So you can see how someone might not want to admit that they're lonely, but when it comes to some of these items they may actually be quite profoundly lonely. And so that's why sometimes these kinds of measures are useful because of the shame around admitting that you are lonely.

DR. ANNE HALLWARD: I think about my training as a doctor we were we were taught to ask indirectly about anything to do with stigma. So, for instance, the screening for alcohol use is very sort of indirect and I imagine that that would be the same for loneliness, just as you said people feel ashamed to admit to it, as if it is. And so maybe I can ask you, what do you think the fear would be for a person to admit the screening questionnaire that they're struggling with loneliness?

JULIANNE HOLT-LUNDSTAD: I think that it also, to some extent, is perhaps a feeling that they are somehow unworthy of of being loved or that they are unloved and that may be difficult to even admit to yourself. Or the feeling, you know, I hate to use this word, but you know because loneliness is on the rise among young adults and adolescents — in fact, there's evidence to suggest that this may be the highest among this group — but that, you know, in a term that an adolescent might use, that would mean that, you know, to be lonely is to be a loser. Right? And you know as much as I hate to use that word I think there may be that connotation around it. That there's something wrong with me if I am lonely. And so just like there's stigma around mental health. It's, I think, the idea that there's something wrong with you or the person that would lead to people being unwilling to admit this and there being shame and stigma around it.

DR. ANNE HALLWARD: Thank you. That really explains it. So summing up all the different trends that you're naming around numbers of people and people's lives around the support that may or may not be available on the quality of their relationships. How would you sum up and what is the bottom line about the current state of social connection these days in the U.S.?

JULIANNE HOLT-LUNDSTAD: Well, we have good evidence that across a variety of indicators that Americans are becoming less socially connected and and not only is this increasing, but that this is at a rate just base rate in terms of the prevalence, even if you look at some of the conservative estimates. So if you look specifically at loneliness alone there are estimates between 25% and I've seen some over 50%. But even if you went on more of the conservative end of this, 25% that means a quarter of the population is affected by this. And when there is anything that is health relevant that affects a quarter of the population, this is something we need to take seriously.

DR. ANNE HALLWARD: And how bad is loneliness for your health?

JULIANNE HOLT-LUNDSTAD: That's a great question. My colleagues and I, we wanted to know this answer. And so what we did was we conducted a metadata analysis and what this means is that we gathered all of the available published data that had ever been conducted and examined that. We first looked at any studies that had ever looked at the effect of social relationships on risk for mortality. And then we did a second one specifically looking at loneliness, isolation and living alone.

But let me first talk about that first one. And so we first looked at that and we found 148 studies. These are prospective studies meaning that they followed people over time so they were able to get an indication of how socially connected people are and follow them over time to see if that predicted whether or not they were alive or dead at the follow up. So there's a direction of effect there. And what this found was that people who are more socially connected were 50% more likely to be alive at the follow up. This initial analysis included over 300,000 participants. This included people or data that was available worldwide. And we wanted to benchmark this relative to other risk factors that we take quite seriously for our health. And so what we found was that when you average across these indicators of social connection that lacking social connection was comparable to smoking up to 15 cigarettes per day and exceeded that of obesity, air pollution, physical inactivity and excessive alcohol consumption.

So we then followed this up with another meta analysis looking at all the available data specifically looking at loneliness, social isolation and living alone. So these were indicators of social deficits and what is the risk associated with these. So this was conducted five years later so additional data was available. And, in fact, there were some very large scale studies that occurred after this. And so this included data from over 3.4M participants. And we wanted to know whether or not, I guess we had to two key questions — not only what is the overall effect of this? But how does this compare to being the protective effects of being socially connected? And are the objective indicators a better marker of risk than the more subjective? And what we found was that loneliness, social isolation and living alone all significantly predicted risk for premature mortality and

equivalently so. So even though they are not the same — so recall you can be lonely but not socially isolated and you can be isolated but not lonely, similarly you can live alone and not be lonely — but all of these equivalently predicted risk for premature mortality.

But what's interesting is that the protective effects of being socially connected were actually stronger, which I think adds a hopeful note to this. And while there is risk associated with these social deficits, there is an even stronger protective effect of being socially connected.

DR. ANNE HALLWARD: So just so I understand that. So if I was if I was lonely or isolated, I might have a 30% increased risk of dying younger than if I was really connected. I would have an even bigger chance of living longer.

JULIANNE HOLT-LUNDSTAD: Yeah you have a 50% chance of living longer living longer than a neutral person or living longer than a lonely person. It's the comparison to the those on the high end compared to the low end.

DR. ANNE HALLWARD: So are there ways that we can measure a direct biological impact of social connection?

JULIANNE HOLT-LUNDSTAD: Yes. In fact, some of my studies we've brought people into our lab and we hook them up to these monitors where we can monitor some of their physiology. So what we'll do is, say for instance, we will collect cardiovascular — so heart rate and blood pressure — and we'll compare people who are very socially connected, as well as people who are less socially connected and how they react or respond in a stressful situation. And I know that sounds terrible — we put people in a stressful situation in the lab, but, you know, we try to mimic the kinds of stress that we would encounter in our everyday lives anyway. And so we have them do this task, but we might also get hormones that are related to stress such as cortisol, and we'll see how their bodies respond. And what we find is that those who are more socially connected or who have more supportive relationships in their social network are less reactive to stress. So while their heart rate and blood pressure and cortisol may still respond to the stress, it doesn't spike like we see it among others, for instance, that may have less who are less socially connected. And so what this means is if this gives us a snapshot into how their body is responding on a daily basis to these kinds of situations. If this is happening on a chronic basis, this can lead to putting someone at greater risk for stress related health problems.

DR. ANNE HALLWARD: It seems like a particularly cruel thing doesn't it? So the person's already lonely and on top of that they experience stress in a more stressful way. It's a really awful. It seems to be part of a real vicious cycle.

JULIANNE HOLT-LUNDSTAD: Well if you think about it, there have been many neuroscientists that have argued, though, that this is part of an adaptive response. And if you think about it, it's, you know, much like other kinds of social species. It increases our survivability if when faced with a threat, if there are others around us, particularly trusted others. So imagine, you know, you're facing some kind of threat, not only would you respond better if you're not the only one there, but imagine you've now got 10 or 100 others there to help you out. Right? So instead, if we are alone or there are others there, but we can't count on them or trust them, and we're on our own to face this threat, our body is designed to prepare us. You know, whether it is to fight or flee or to freeze. There are these adaptive responses to deal with this threat if we have to face it alone. And so, for instance, the the late John Kacuba who's done a lot of research in this area, he argued that loneliness is an adaptive biological response much like hunger and thirst. And that just like we require food and water to survive, hunger and thirst are biological drives that motivate us to seek food and water. Similarly, we need others to survive, and loneliness is an adaptive response, a biological motive that motivates us and urges us to reconnect.

DR. ANNE HALLWARD: Right, that makes a lot of sense. It also sounds though that if we are lonely it's almost like our fight or flight response will be more exaggerated because we need more adrenaline to fight off predators if we're alone. Am I understanding you correctly?

JULIANNE HOLT-LUNDSTAD: That may be part of it. The other part that is being examined, there's a researcher at UCLA, Naomi Eisenberger, who's done some research that has also shown that social pain shares similar neural pathways as physical pain. And so we may experience social pain, the feeling of being left out or the feeling of being rejected, similarly to physical pain. Again supporting this notion that this is a biological drive that may be motivating us to reconnect.

DR. ANNE HALLWARD: So I noticed in reading your work that in looking at the relationship between loneliness or social disconnection and premature death that you explicitly excluded studies that looked at suicide. And I was curious about this because I think of loneliness as one of the important risk factors for suicide. And I'm curious if you could talk to me about how you see the link between loneliness and suicide.

JULIANNE HOLT-LUNDSTAD: Yeah. So I can tell you why we did this because at the time we conducted this there was little recognition that our relationships impact our our health. And so we really wanted to focus on disease related mortality, and so we excluded studies that were not only related to suicide, but also accidents and violence. And that's not to say that we don't recognize that being socially connected or, conversely, actually being socially disconnected would increase the risk of those. But given this lack of recognition, we were concerned that by including all of those that particularly these results might be discounted as being primarily driven by suicide, and that the risk for premature mortality was only related to suicide and less of these others. And so that's why we we focused on that.

But, of course, there's data that shows that this increases risk for suicide. But there's also evidence to suggest that this may be related to greater risk associated with accidents and violence as well. In fact, last fall I was in the UK and one of the members of parliament talked to me about concerns about terrorist groups recruiting college university students and that those who are most socially disconnected may be most likely to be recruited into these kinds of groups. And so there is growing interest around social disconnection, whether it's terrorism or gun violence or other kinds of public health issues, where social disconnection may be an underlying root cause. So I want to be clear that while we focused on disease related mortality, that these estimates that we provide may actually be conservative estimates given that they don't include suicide or accidents or violence.

DR. ANNE HALLWARD: All right. Thank you. I hadn't thought of loneliness as a risk factor for terrorism. That really makes sense. I know that you have the hope that your work will translate into seeing loneliness as a real public health problem and seeing social disconnection as a real public health problem and of mobilizing societal resources to deal with it. And as I was thinking about that, I was thinking about the ways in which when we identify things as public health problems like say, for instance, smoking or obesity we will have the unintended consequence of making people feel more ashamed for being smoker or being overweight. Is there a way to increase the public health awareness or kind of resources devoted to loneliness without making people feel even more ashamed about being healthy?

JULIANNE HOLT-LUNDSTAD: Yeah, I feel like focusing on social connection which is really the goal. It applies to everyone whereas I think when we use the term loneliness we start to think in dichotomous terms that you're either lonely or you're not. And in actuality when we look across the data, the data does not support a kind of a threshold effect meaning that once you reach some level, that you're at risk or you're not at risk. So, for instance, I get the question all the time just how many friends do I need to have a health benefit? And and this really assumes that there's some magic number, you know, that I could say, “Oh well if you have this many number of friends, then you're fine. And if you have less than that you're not OK.” But really the data suggests that it's a continuum.

In fact, there's data to suggest that it is a dose response effect, meaning that for every level of increase in social connection, there is a decrease in risk. So we all fall somewhere on this continuum and if we focus on what the goal is, you know, being more socially connected then we can recognize that this does apply to all of us. Rather than, I feel like, if we focus on loneliness it almost feels like, you know, OK well let's try and identify who are the loneliest people and who needs the help and who needs the resources instead of thinking about, I guess, I like to think about it similar to physical activity. We all need to be physical physically active. Right? And some of us do better than others.

DR. ANNE HALLWARD: Yes.

JULIANNE HOLT-LUNDSTAD: And that at least if we had some kind of national guidelines similar to you know physical activity or the recommendations for nutrition or sleep or other kinds of lifestyle factors that we need to consider social connection as part of a healthy lifestyle that applies to all of us and that we all need to incorporate in our daily lives to to increase our our health. And, of course, guidelines around these, even around physical activity and even around nutrition, are imperfect. But they are based on expert consensus as well as subject to periodic review, meaning that as new evidence comes forth they are periodically reviewed and updated and modified. But, at least by having something like this, people will start thinking about and evaluating where they where they stand. So, you know, you may not be getting as much exercises as you need or eating as much as many vegetables as you need, but at least you're aware of that rate. Whereas I think when we just

use the term loneliness people think of the most extreme form of of social disconnection. And of course because of the shame and stigma around that that there may also be some defensiveness around that. Whereas if we focus on the positive side we all can think about how we can be doing a little bit better and how we can be incorporating that in our everyday lives.

DR. ANNE HALLWARD: We have talked to many people who experience or are currently experiencing loneliness and two of the themes that come up a lot are after a move, especially as an adult, or after the death of someone very dear. Are there things that you learned — I know this is not exactly what you study — but are there things that you learned are concretely useful to people who moved to a new town that really helped you build social networks?

JULIANNE HOLT-LUNDSTAD: Well, I think one of the things that you need to keep in mind that we know from research is, and, of course, this just really confirms what I think everyone would say we know already — and that is that relationships take time to develop and that you're not going to instantly be best friends with someone after an initial interaction. That is highly unlikely. And so it's interesting because I think a lot of programs that are being developed to address this issue are in essence providing opportunities for social participation, but oftentimes it's just a one off. Meaning, yes, you're around other people, you're engaging in an activity, but does a real relationship actually develop? And I know there have been others that have tried to identify you know just how many hours does it take to go from a from a stranger to an acquaintance from an acquaintance to a casual friend from a casual friend to a friend and then from a friend to you know a deep intimate friendship. And, you know, regardless of what those specific hours are, I think we can all attest that these kinds of relationships do develop over time and so they do require investment over time. And so this can be difficult to do when you move so to somewhere new. But, and that's where I think some recommendations come for being involved in social groups, where there may be a regular attendance where you will see the same people over and over again for that opportunity to potentially build relationships within those kinds of groups. That doesn't guarantee that you will make a connection with anyone. But by having more regular frequent contact the more likely that that will occur.

DR. ANNE HALLWARD: My understanding from reading your work is that the lack of social connection in younger people, people younger than 65 years old, is actually associated with worse health outcomes than in older people. And I'm curious how do you understand that loneliness is both increasing in younger people, but also worse for their health?

JULIANNE HOLT-LUNDSTAD: You know, it's interesting because when we first got that result we were initially a little surprised because at the time almost the entire data was focused on older adults and loneliness and isolation among older adults. And so we figured, of course, it must be worse in older adults. And so, you know, when we got this finding we in essence had to speculate why. And what we suspected is that there is also evidence that as we age our our social networks tend to shrink. And so this may be a bit more expected or typical. So, for instance, with retirement, children living leaving home, friends starting to pass away, that are our networks as we age tend to shrink and that this is somewhat an expected trajectory. Whereas at younger ages our social networks are expanding and there is the expectation that we're building and broadening our networks. And so to experience this at younger ages may be less normative and perhaps more distressing in this way because it is less expected.

DR. ANNE HALLWARD: [01:09:37] Do you mean more like it's more stigmatized? I mean, people are apt to feel more like a failure for it?

JULIANNE HOLT-LUNDSTAD: Well if we go back to the definition of loneliness people refer to it as this discrepancy between one's actual level of connection and one's desired level of connection. And so if your desired level or those expectations are much higher at younger ages than at older ages, that discrepancy much may be much larger and therefore thereby potentially more distressing as well.

DR. ANNE HALLWARD: Can you comment a little bit about Instagram, Snapchat, texting that we see younger people really using as a way to connect with their friends, about how this may or may not impact social isolation and experiences of loneliness?

JULIANNE HOLT-LUNDSTAD: Right. So social media, of course, is relatively recent and if we look at all of the data that establish the importance of the sites, because they followed people over often decades, the data collection began before the widespread use of of social media. So, for instance, if you just simply take the year 2012 as the benchmark, at which point more than 50% of Americans had smartphones. We have to recognize that this is only within the last six years. And so this is a relatively recent phenomenon. Yet we have good data

that it is profoundly changing the way in which we socially engage. And so we really don't have a good grasp on the long term effects of this. There is emerging data that suggests some correlational findings.

So, for instance, people who spend more time on social media, that is associated with greater reports of loneliness and poorer wellbeing. But similarly, some of this is correlational, meaning that people who are lonely may be more likely to use social media and there's evidence to to suggest that this might be bi-directional. And even the evidence that follows people over time to establish the direction of the effect are relatively short-term. So we might know some of the short-term effects of it, but we don't have a really good grasp on the long-term effects of it. And there's evidence to suggest that it may differ depending on how it's used. So whether you're using social media to facilitate in person meeting up versus just communicating solely via social media, or whether you're using social media just to browse where you're in essence a passive participant, rather than actively participating and these may have a profoundly different effects or may not. But more research is really needed to distinguish the types of usage and where there may be some potential positive and benefits so that we can capitalize on those while recognizing some of the downfalls or limitations or detrimental effects that these.

DR. ANNE HALLWARD: I think the loneliness in some ways as a universal human experience something that, at some point in our lives, we're all going to feel. How do we know the difference between this kind of normal inevitable loneliness and the kind that really starts to become a risk factor for health problems?

JULIANNE HOLT-LUNDSTAD: You know, I think it's easier for a researcher to be able to look on the outside and and in essence define it as well of course it's the crudeness of it. You know, if it's short term it's going to have less of an effect. And if it's more chronic, of course, it's going to have a much more profound effect. But when you are personally in the midst of it, it may be much more difficult to know whether this is just something that is transient or whether it could potentially become something more long term. And there is data to suggest that for many people this feeling can become very chronic and long term. And so if, of course, if this is something that's concerning to you, you know, seeking out professional help is always an option as well because there is some evidence to suggest among those for whom this can become chronic, that our way of looking and perceiving the world may be different when you're lonely that can actually exacerbate it.

So there's something that is referred to as a negativity bias where those who are lonely tend to perceive social situations and even ambiguous social situations as in a more negative light. So, for instance, you text someone and they don't respond right away you're more likely to assume that they're avoiding you. Or instead of just assuming, oh, they must be busy. And when you start to have this kind of negative bias, this, in turn, influences your future responses that can exacerbate this. So if you respond negatively — why are you avoiding me? The other person may not respond very positively back to you. And this can start to create situations where others may be more likely to withdraw and can further exacerbate the problem. So seeking out some cognitive therapy can be useful in these kinds of situations.

DR. ANNE HALLWARD: What is it that you most want people to understand about the importance of social connection and our health?

JULIANNE HOLT-LUNDSTAD: I would say that we now have robust evidence that our social relationships have a profound effect on our health and that they are just as important to our health as the other kinds of things that we take very seriously like exercise and nutrition and smoking, and that we need to start taking our relationships just as seriously for our health as we do these other things.

DR. ANNE HALLWARD: That's really great. That really sums it up. I told you I was going to — I realize, I always do this. I say I only have two more. And of course the third one occurs to me. I'm really sorry. This last one which is, so you have this extraordinary body of work that you published already on this topic. What was it about social connection or social isolation that interested you to make the focus of your career?

JULIANNE HOLT-LUNDSTAD: I started out looking at stress and its effect on our health but always as part of that was social relationships and so my early work started looking at how social relationships can either help us cope with stress or be sources of stress, and how this has a profound effect on our on our biology to affect our health. And it was through that early work that I started realizing it's more than just stress. Our relationships can have a profound effect on our health in other ways as well. And I think at that time, at least within the field, there was so much emphasis specifically within the realm of or the role of of social relationships on stress. And I wanted to look at the positive side of things. How our relationships can be sources of positivity and joy in our lives? And what role they play when things are going well, not just when things are going bad. And I think even still, I think the the media and others are so focused on on loneliness, and I have to keep saying that really the

goal is social connection. And I think we tend to forget that there is this powerful protective role of being socially connected. And so I think it's in the nature of, you know, particularly scientists to focus on the negative or the deficit side of things or in the public, you know, what's the problem without looking at the positive or the growth side of things. And so, you know, coming back to that Swedish proverb of shared joy is double joy, shared sorrow is half sorrow, I think we need to recognize just how powerful that being socially connected and the positive protective side of things can be, and that we don't need to just focus on the deficits and the negative side of things.

DR. ANNE HALLWARD: Thank you. I hope everyone can relate to that feeling and it does feel good physically. You know, the shared joy makes sense in a way that is good for our health because we feel it in their bodies.