

#322 – Mastering Resilience with Dennis Charney MD

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Shrink Rap Radio Number 322. *Mastering Resilience*, with Dr. Dennis Charney.

It's Shrink Rap Radio, all the psychology you need to know, and just enough to make you dangerous—it's all in your head. And now, here's your host, Dr. Dave.

DVN: My guest today is neurologist Dr. Dennis S. Charney, and we'll be discussing the 2012 book he co-authored with Stephen M. Southwick on the topic of resilience. Dennis S. Charney, MD is Dean of Mt. Sinai School of Medicine and Executive Vice President for Academic Affairs of the Mt. Sinai Medical Center. Dr. Charney is a world expert in the neurobiology and treatment of mood and anxiety disorders. He has made fundamental contributions to the understanding of neural circuits and neural chemistry related to human anxiety, fear and mood as well as the discovery of new treatment for mood and anxiety disorders. He later expanded this area into pioneering research related to the psychobiological mechanisms of human resilience to stress.

Early in his career Dr. Charney led a team that determined that the biology of human anxiety disorders were characterized by excessive noradrenergic activity and dysfunction of specific neurocircuits, including the prefrontal cortex, amygdala and hippocampus. His work in depression led to new hypotheses regarding the mechanisms of antidepressant drugs and discovery of new and novel therapies for treatment-resistant depression, including lithium and ketamine, which works within hours.

After decades of work on the biology of anxiety, depression and post-traumatic stress disorder, Dr. Charney and colleagues have turned their attention towards investigating the psychobiological mechanisms of human resilience to stress. They found specific hormones and peptides which contribute to resilience, and have identified a prescription for enhancing human resilience.

A prolific author, Dr. Charney has written more than 700 publications, including groundbreaking scientific papers, chapters and books. Dr. Charney's most recent book is *Resilience, the Science of Mastering Life's Greatest Challenges*. Now, here's the interview:

Dr. Dennis Charney, welcome to Shrink Rap Radio.

DC: Thank you. It's a pleasure to be with you.

DVN: It's great to have you on the show. I must say you have quite a remarkable bio. I can't believe how prolific you've been in your work, so I really feel honored to have this opportunity to speak with you. On the book you co-authored on resilience—and I find it's really stimulated my interest in that topic—how did you first get interested in the topic of resilience?

DC: Well, Steven Southwick who's my co-author, and has been a friend for over 25 years and we're both psychiatrists and have worked together over that time, we started initially in our careers working with patients who suffer from depression and post-traumatic stress disorder. We did a lot of work for example, with veterans from Vietnam and Afghanistan and Iraq. So we focused on treating patients with those problems, and also did research to try to understand those problems from a psychological and neurobiological perspective. About 15 years ago we decided we should also learn from people who have been traumatized that either never developed post-

traumatic stress disorder or depression—or if they did, they recovered. In other words, they were resilient. They were able to bounce back. So that started literally, over the next 15 years, a series of projects that have changed our lives personally, and also professionally, because we have gotten to meet some unbelievable people along the way that basically taught Steve and I about resilience. So it really started from the hope to better understand and develop new ways of treating patients of PTSD and depression, then ultimately we think we developed a roadmap to becoming a more resilient person in general.

DVN: Well, I'm really struck by the fact that you said that both of you were affected personally by this. I wonder if you can expand on that just a little bit.

DC: Yes, sure. So the question is, "Who did we get to know through the process of studying resilience?" These are the individuals we ended up studying and learning from. One was a group of prisoners of war from Vietnam. And these were men who were most of them were shot down as fighter pilots and were held in prison in North Vietnam for six to eight years, heavily tortured six to eight years. It's unbelievable, right? Heavily tortured, held in solitary confinement. We had heard that many of them when they got out were very successful in life--the most prominent example being John McCain. So we ended up getting to know and videotaped interviews with over 30 prisoners of war from Vietnam. We then also studied members of the U.S. Special Forces—the Navy Seals and the Green Berets in the Army. We studied victims of earthquakes in Pakistan. We got to know individuals who lived unfortunately, in poverty and in an environment in which abuse and crime was overly-prevalent in inner-city Washington, DC. We got to know young people who were faced with congenital diseases. We even got to know very well Jerry White, who when he was young stepped on a land mine in Israel and ultimately formed the Land Mine Survivors Network and won the Nobel Peace Prize in 1997. So you can see, we got to know so many different kinds of people of all different ethnic groups and socioeconomic strata and by meeting those people we came to admire them, came to understand how they got through tough times, and that even affected us personally.

DVN: Yes, I can see where their stories would inspire you—would both challenge you and inspire you in your personal lives.

DC: That's true. They became role models. It's actually an important feature of becoming resilient when we face challenges in our own lives we think back, what would so-and-so do, how did so-and-so get through tough times being a POW? That gave our own little roadmap in our own lives.

DVN: That's one thing I really like about your book is that you drew not only on your own clinical experience from the past and the research literature, but also that you set out and you did interviews to fill out this book in terms of people's lives. And I think that makes your book particularly engaging. Now, when I think of resilience I think of Martin Seligman and Positive Psychology, and I believe that Seligman has a contract with the Army to develop a resilience training program for them. Can you comment on that and to what extent is your own thinking influenced by that work?

DC: Yes, Martin Seligman, who is a very famous psychologist at the University of Pennsylvania, considered by many the Father of Positive Psychology, written some very good books on that. I think on our own findings are consistent with what Marty has written about, and that is the importance of optimism. We found that as a critical feature of our resilient people, and building on realistic optimism in your life. So I would say there that we're in line with a lot of what Marty's written about. And you are right that the U.S. Army, through basic training over many,

many years has worked to make young people more resilient so that they can face the enormous stress associated with the climate and combat. So they are experts in that, and they have recently taken to heart the work of many people, including Marty, and ourselves too, in developing a 100-million dollar program to incorporate ideas about resilience into the training of American soldiers, so that's one practical application of resilience research.

DVN: I should be quick to point out that your research on resilience--you'd already been working on that before Marty announced Positive Psychology. You've been working on this I gather, for about 20 years, is that right?

DC: Yes. It's been a long time, and it's been terrific. I have to emphasize that Marty's work is very influential as well.

DVN: Now, in your book you identify ten traits that you found that tended to recur among people who showed high levels of resilience, and I'd like to have you take us through the ten resilience traits. But before you do so, let me say that I'm sufficiently impressed by your book that I'm thinking of offering a lifelong learning course at Sonoma State University, where I've taught for many years. The course would be on resilience, this is just kind of an idea in the back of my mind—and my thought is I'd like to identify a Hollywood film that would represent each of the ten positive traits of resilience. So as you take us through those traits, I would love it if a film comes to mind that particularly illustrates that trait. And if it doesn't come to mind now in the heat of the interview I'll contact you later by email with a request that you and your co-author come up with any suggestions that might come to mind with further reflection. Would that be okay?

DC: That would be great. In fact, some are related—I'm a Bruce Springsteen fan like millions of other people, and I've actually given an academic talk about Bruce Springsteen's music in the context of resilience. Many of his songs over the course of his career speak to resilience and getting through tough times. So not only do I think your point about films is a good one, music too. I think that's why people find comfort in different types of music.

DVN: Yes. Well, let's go ahead and take us through the ten traits that you discuss in your book, and maybe you can give us a little detail on each one.

DC: Okay. One is positive attitude, as we were alluding to before. Optimism. Optimism is strongly related to resilience, but it's a certain kind of optimism. It's realistic optimism. That is, when you're faced with a challenge in your life you take a clear-eye view of what the challenge is, what the obstacles are that you will need to overcome. Then at the same time, after you do that very realistic assessment, you have the belief that you will somehow prevail. That's realistic optimism. Pollyanna optimism, which is not associated with resilience, would be that you don't fully evaluate the challenge. You're just in a sense, blindly optimistic. That gets you in trouble. If you're a soldier that gets you killed. The importance is realistic optimism, and Jim Collins, a very well-known author who wrote *Good to Great* and *Built to Last* where he talks about how you make companies and institutions great—he coined a term that I resonate with, and that's called the Stockdale Paradox. Jim Stockdale was a very heroic prisoner of war from Vietnam who was actually the highest-ranking POW, and for his heroism as a POW won the Medal of Honor. He was the best example of realistic optimism. Stockdale knew, when he was a POW, that he was 8,000 miles away from safety, he was being held by an enemy that could kill him so he knew the obstacles he was faced with. But in the same time, knowing the inner strength that he had, he thought that he would prevail. So that's true optimism. And he did prevail. Now optimism is very

important. It is, in part, genetic. I'm sure you and many of your listeners know people in their lives who just seem to be born feeling positive. So there is that genetic component.

DVN: Yes, I envy them.

DC: Right. However, genes are not destiny. You can learn to be more optimistic. There's even a form of psychotherapy called Cognitive Behavioral Therapy that helps you to become more optimistic—to see your world in a more positive way. Cognitive Behavioral Therapy has been shown to be very helpful for depression, for example, when depressed people tend to take a negative approach to their lives.

So, one would be optimism. Another important feature of resilience is to embrace a personal moral compass. You have a set of beliefs—of core beliefs—that very few things can shatter. For some people, it's faith in conjunction with a strong religious or a spiritual belief. For others, it can relate to altruism—the importance of doing things for others. And that's been called a survivor mission. So personal moral compass is very important and there's even a form of therapy called Meaning Therapy, which was developed by Viktor Frankl, but a great book that your listeners may want to look at called *Man's Search for Meaning*.

DVN: Yes, that's been influential in my own life and thinking.

DC: So those are two. And another is finding a resilient role model or even resilient role models plural. In many respects getting on the road to recovery when faced with trauma or challenge in life starts with role models. Those are people, who in many instances have been through what you're going through, and they can provide a roadmap on how you can get through tough times, and frequently it's not one role model. You want to take positive attributes or characteristics from many different kinds of people that then you can imitate and move on. Imitation is a very powerful mode of learning.

DVN: I think of an example in my own life, where I have a good friend who I met while I was on a teaching exchange in New Hampshire. He was the father of four boys, and somewhere in the process I became the father of four as well, and he's just a real man's man and a sensitive guy, and he seemed to be to be such a good father. And he really helped me to shoulder that burden to some extent. I mean it's not totally a burden, but as a young father it sometimes did seem that way.

DC: That's right. And good fathers frequently are born from other good fathers. They show you the way. Another factor is facing your fears. Fear is normal and can be used as a guide. For example, when we got to know the Navy Seals, the Green Berets and the U.S. Special Forces – you might think that those men are fearless, but they're not. True courage is being able to overcome your fears. So we would ask them, "How do you handle your fear?" And they said they used fear as a guide, that in fears they would take it one step at a time, being out of your comfort zones in some respects, mastering those feelings then moving on to the next level mastering your fears, and so it's really like going up a ladder one step at a time and developing a toolbox to handle things that you might be afraid of. Facing your fears can increase your self-esteem. You can practice skills necessary to move through fear. I've actually, I think this might have relevance to the way you raise your children—to become more resilient-- because we've found as you raise your children, if you don't provide them with some challenges they're not going to be prepared for the inevitable challenges that we all face as adults.

DVN: What would be an example of doing that as a parent?

DC: Well, I'll give you one example from my own life. I have five children—four daughters, one son—and every year our family would go on some type of adventure trip—camping, hiking, climbing—and it wasn't unusual to be in a little bit of a scary situation—wildlife, on a mountain, that sort of thing. But you kind of learn how to handle that. So there was one time when one of my daughters was 13 years-old we were hiking. We got a little bit lost and there was some wildlife in the area so it was a little scary and one of my daughters said in front of everybody that she “despised me.” Like it came from her soul.

DVN: Wait. I think I missed a word there. Say that again.

DC: That one of my daughters said that she despised me.

DVN: Oh. Despised you.

DC: Despised me, for putting her in such a scary situation. Instead of saying, “Okay, I won't do that anymore, we continued to go on our adventure trips every year and so forth, and my children gained the skills to feel they had a handle on being out of their comfort zone. Well, this daughter who was 13 years-old when she said that is now 30--very accomplished in life. What did she do last winter? She went to Yellowstone National Park, in winter with snowshoes, and she's a real outdoor person.

DVN: That's great.

DC: So it just shows you can help your children move through things that may be fearful, and then before you know it as adults they have all these skills to handle unexpected challenges.

DVN: Yes, that's a good example. And for myself, it helps me understand why I keep thrusting myself into positions where I have to do public speaking. I always go through a certain amount of fear, but somehow I can't seem to break that habit.

DC: But you do it, right?

DVN: I do it. I keep doing it.

DC: That's an important feature of being resilient, and then another feature is to establish and nurture a supportive social network. Very few can go it alone. We all need a safety net in times of stress. One example we have in the book is from the POWs. So, as a reminder, they were held for six to eight years in prison—for many of them, in solitary confinement for years where you were not allowed to talk. And they told us over and over again that they would not have been able to psychologically handle that isolation unless they had developed a tap code.

DVN: Yes, I thought that was a fascinating feature in the book.

DC: The tap code is that they developed an algorithm of taping which stood for letters in the alphabet so that they were able to communicate through the wall by tapping on the wall to the person in the next cell.

DVN: It wasn't Morse code, it was a different system that somebody evolved.

DC: Yes, so it was five rows of five letters. So you would tap what row, one or two or three or four or five taps, and then you would tap again number that letter was in that row. So it wasn't quite Morse code. It was five rows of five letters.

DVN: It sounds very slow.

DC: But they were able to get their point—they were tapping like crazy, yes. So once they started doing it they had abbreviations for words so they were able to carry on a conversation by tapping through the wall. So our analogy is that everybody needs a tap code. Everybody needs close relationships with people, and even organizations. I'm sure your audience can resonate with that. Frequently, that can take the form of a group of individuals that have gone through the same challenge—support groups of women who've been unfortunately, sexually abused—or Mothers Against Drunk Driving where mothers lost children. Those kinds of support groups can really be very helpful.

DVN: Yes, as I get older I recognize more and more the value of friends, and try to hold my friends close to me and stay in contact to keep those relationships alive.

DC: Yes, that's very important. You take the story of Jerry White. I mentioned earlier in our discussion we got to know Jerry White. When he was twenty years-old he was traveling in the Middle East in Israel as part of him being interested in Judaism, even though he was an Irish Catholic. With friends he was following the paths of the prophets during one summer after one of their early year in college, and Jerry stepped on a landmine and lost his leg. His friends heroically got him out of the area where he stepped on the landmine. And ultimately, Jerry recovered in an Israeli hospital. But what did he do with the rest of his life? He formed the Landmine Survivors Network, whose mission was to rid the planet of landmines. Princess Diana got involved. And as I mentioned they won the Nobel Peace Prize in 1997. Forming that Landmine Survivors Network enabled victims of landmines to form a social network that was very supportive and helped them overcome the trauma of losing a leg by stepping on a landmine—just another example of how a supportive social network is so important. Now, with the Internet, there are various ways to develop that kind of network.

DVN: Yes, and I think another lesson that comes out of that is really that we're challenged to turn our tragedies—to take the energy of the shock and sorrow, etc., of the tragedy and somehow transmute it into something in the world.

DC: Exactly. What doesn't kill you makes you stronger. That's the true mark of somebody that's resilient, like Jerry, who lost his limb and forms this incredible network to help so many other people. That's where the altruism comes in, also.

We've also found that physical well-being, attention to physical well-being is very important. Physical exercise has very positive affects on heartiness and even on mood. It improves self-esteem. We and others have found, for example, that structured physical exercise can even have some anti-depressant effects, and that is a primary treatment for depression, but as someone starts to feel somewhat better, developing a regular, structured physical exercise program can literally lift your mood. There have been biologic studies that show that physical exercise improves brain function, improves the ability to learn and remember, and improves your ability to regulate your emotions in a positive way. We found many examples among the resilient people that we got to know that physical exercise could be very helpful.

DVN: Yes, sometime back I interviewed Dr. John Ratey of Harvard about his book, *Spark*, in which he documents much of that as well.

DC: And Steve and I have found it's helpful in our own lives. Encourage your listeners who may be faced with challenges in their lives that even though it might not be obvious, physical exercise can be very helpful in getting in better shape. It can be very useful.

And then we have a term called 'cognitive flexibility,' and that's where people who've been traumatized work to evaluate the meaningfulness of what happened so that they can reframe it, assimilate it, accept it and then recover. You take the example of a woman who might have been raped. The rape is not about them. It's not something that they should feel guilty about. So they need to accept that it happened—but then assimilate that it did happen. But once they accept it they can be on the road to recovery, and these skills can be learned. And even if someone perceives that they have failed in some way. Failure is an essential ingredient for personal growth. In fact, when we talk to groups and mentor people we say, and I say that if you fail in life you don't try hard enough, because you learn from failure. You learn that as a scientist you learn from failure and in meeting personal challenges and trying to move beyond what you think you're capable of doing you can turn that into something very positive.

DVN: There are so many examples from the world of business where people failed in business and picked themselves up and went on to great success.

DC: So those are some of the many—not all ten, but some of those are some of the most important of the factors, and I would emphasize to everybody that you can train yourself to be more resilient. The value of thinking about resilience is that it can be preventative. If you begin to think about some of these factors in your own life so that when you're faced with something that is a challenge, you're prepared. And as I mentioned before that can relate to raising your children, but it can also help you personally to get through tough times.

DVN: Now, you're trained as a neurologist, and one of the things that you discuss in the book is brain plasticity. Where does brain plasticity fit into what you've been talking about?

DC: People used to think that once you took an I.Q. test when you were younger that was how smart you were going to be. It's kind of fixed. That turns out not to be the case. The brain is almost like a muscle and that the more you use it, the better it works. And that's what's meant by brain plasticity—that if you really work at intellectual tasks, your ability to learn and remember can be improved. If you work to have a better way to controlling your emotions, the part of the brain that's involved in the regulation of emotions functions better. So in general, we believe like many other scientists, that there's a lot of untapped capacity in the human brain that we don't take advantage of all of it. This was brought home to us in some of the conversations with the Prisoners of War, where I mentioned they were held in solitary confinement. All they had to do was to think. They were exercising their brains, and a number of them told us spontaneously—because we weren't expecting this—that they developed capacities of learning and remembering—and even mathematical calculations—that they never had before – that their brains were functioning better. That speaks to the plasticity of the human brain.

DC: That makes me realize to the degree in which I—and I suspect many other people—rely on my iPhone and Google, and I refer to my iPhone as a crutch for my brain, because as my memory fails about a title of a movie or who was in the movie, or some other factoid I can whip out the iPhone and I can retrieve it. I'm wondering because we're in the opposite situation of the guy

who's in the POW cell with nothing to do other than exercise his brain, it seems like we have these cognitive crutches, and I wonder what your thoughts might be about that.

DC: With proper use of the smart phones and so forth, we can do even better than we are because we have access to so much more knowledge. So we want to make sure we don't use it as a crutch, but we use it as a way to get access to knowledge that previously wasn't available to everybody. So it can be a positive, but there's that risk, as you mentioned. There's also the emotional risk. I have found that there are some people, when I call them on the phone they don't answer, but when I text them, they immediately respond--as if they don't want to talk. Some concern is that some people are losing their interactive skills because they'd much rather communicate with people more remotely as opposed to actually talking, either on the phone or face-to-face. We don't to have our emotional skills atrophy.

DVN: I share that concern. As I monitor myself, I tend to be a big fan of technology, but in recent years I'm questioning that in some ways because I can see that it has really affected my attention span and perhaps even something about the emotional relationship factor that you're discussing right now.

DC: People will say things—I don't mean in the verbal sense--but will report things, either through text or through Twitter that they're not comfortable saying face-to-face. So we don't want to lose those skills.

DVN: I just had the humorous thought of a journal on Twitter. It's an absurd thought, but it seems like we could be heading in that direction, where some psychological journal would be all short, little tweets.

DC: Right.

DVN: One of the things that you discuss in the book that I was particularly interested in is brain training software, because I've tried some of it myself and it's funny. Your book is so compact and it covers so much ground, so I really like the fact that you address that question of whether there is any scientific validity and usefulness to these sorts of brain training products that are available.

DC: That's an important question, and we have reviewed that. I would say there's some evidence that some of these—essentially, they're apps that people have developed, and mind training tasks which are designed to improve learning and memory—I would say they're somewhat effective for “normal people.” When it's been tested with patients with serious diseases of learning and memory like Alzheimer's disease, they haven't been shown to be that effective. So I would recommend them for most of us who are not suffering from specific brain problems – that they might be preventative, and that they might keep us sharp. As I was talking about before with brain plasticity I think those tasks can be helpful.

We have also begun to study whether or not you can develop paths that essentially train the emotional surfaces of the brain, so that you could have a series of tasks that might have some anti-depressant effects. This research is very early, but it speaks to the fact that there might be non-pharmacological approaches to improving your learning and memory on one hand and emotional regulation on the other.

DVN: That's an interesting idea. I don't think I've ever come across that sort of software.

DC: It's just at a research level now. It's not something that's generally available.

DVN: We haven't mentioned any films yet, but there are a lot of macho action movies these days that depict us Americans as very heroic and resilient, and I wonder though, to what extent contemporary American culture supports the development of resilience. Can you comment on that?

DC: I would think that our culture still fosters resilience. If you think about role models, I think we still have positive role models whether it's in film, as *Schindler's List*, I find as going through the list for resilience factors in response to your question about what films might be useful if you think of *Schindler's List* where you had an owner of a factory who helped save a thousand Jews from extermination in the camps – that film talks about a personal moral compass. Schindler was also a role model. One of my favorite films is *It's a Wonderful Life*, which I think talks about the importance of a social network, which at the end of the film helps save Harry Bailey from maybe hurting himself. So, if I thought about it more, there could be a lot of films that can provide a lot of inspiration and a guide to make you more resilient, which is part of our culture. And certainly, there are heroes in our midst that can serve as role models, whether it's war heroes that have come back from Iraq and Afghanistan—I think if you look for them, you'll find them.

DVN: What about reading biographies and autobiographies?

DC: Those are my favorites actually, in terms of role models. Like Teddy Roosevelt. I've read almost every major biography of Teddy Roosevelt because he's so amazing in so many ways—resilient—he had to face through some childhood illnesses, he won the Medal of Honor, Presidency of the United States, established the first national parks—there are so many things about his life you might try to emulate. One of my favorite books that I actually give out to my faculty is *Undaunted Courage*, which is the story of Lewis and Clark's Corps of Discovery expedition. There are so many stories there about heroism and facing challenges and getting through tough times. So that book is essentially a biography of Lewis and Clark. There are books by Shackleton, the explorer who went to the South Pole, didn't make it but was able to save all of his men in a heroic adventure. So I think there's a lot to learn from biographies of people whom you can admire.

DVN: Yes. You've given us some things to add to our reading list here.

DC: Definitely recommend *Undaunted Courage*.

DVN: I guess so if you hand it out to all of your faculty.

DC: I do, I hand that one out.

DVN: That's great. I'll definitely have to add that one to my list. *Undaunted Courage*. And can you say a little bit about the relationship between stress and resilience? I know most of us have the notion that stress equals bad.

DC: That's not true, and I'm glad you brought that up because I was intending to talk about that. We all face stress, and it's how we handle the stress whether it turns out to be helpful or not. There's a term called 'stress inoculation.' What's meant by that is if you are faced with minor stresses in your life—which everybody is—and you master those stresses until you develop essentially a psychological toolbox to handle stress. Then you handle other stressors and other stressors. So you start developing more and more skills in handling stress. So that when you're

faced with a really hard stress—a difficult stress—you've been inoculated. You've developed the skills to handle big-time stress in your life. So that's where stresses that you can handle can be valuable in becoming inoculated against the very negative consequences of very serious stress. It's almost like a vaccine. The idea of a vaccine is to stimulate your immune system so that when you're faced for example, with a virus, you have the immune system to fight off the virus. Stress inoculation is that you've developed the psychological and physiological skills to fight off the negative affects of big-time stress, and you've developed the skills to fight off stress in your life.

DVN: I know that it was in your study of PTSD, Post-Traumatic Stress Disorder that got you into the study of resilience. And after a traumatic experience people often associate certain objects or places with fears, such as the fear of parks after being attacked in a park, for example. How can we relearn those memories and disassociate those fears?

DC: By facing your fears. What you don't want is to have the reminders of the event constrict your life. So if something negative happened in a park you don't want to start avoiding parks. You want to gradually re-expose yourself to what you're afraid of—but in a gradual way—it's called Exposure Therapy. You don't do it all at once. You don't go back to the place that you're most afraid of, but you begin to approach places that somewhat remind you of the place where the trauma happened. Then you take it one step at a time, and then you overcome your fears and you're back to your normal life. That's very important.

DVN: I was at a conference recently where a professor in the audience made a striking statement to the effect that there is no lasting cure for PTSD, and I was struck by this because there are a number of therapeutic approaches that make that claim—that they are effective for PTSD, and I'm wondering what's your take on that? Particularly, I'm thinking about the challenges of all the soldiers that are returning from Iraq and Afghanistan. We've got all these therapies. But is it in fact, true that there's no cure for PTSD?

DC: I don't think I would put it that way. I would say that there are effective therapies, whether it's medicine or psychotherapy that enable many with PTSD to markedly reduce any symptoms that they have, and to get on and to live a normal life. So I'm optimistic in that way. On the other hand, there are memories of the event that will never go away. You don't erase the memories but you're able to live with them. So I'm not sure what the professor meant. You can recover, and you can lead a normal life and have minimal symptoms. But the memories are there and you, as I mentioned before you assimilate those memories. You accept what happened, and that sets you on the road to recovery.

DVN: Speaking of those memories, perhaps you're aware that there's some research lately on the process of memory consolidation, memory re-consolidation, and some people who are working therapeutically with the notion of being able to stimulate a memory as a person's talking about the traumatic experience and I haven't reviewed this recently and I'm not real clear on the process, but to kind of extinguish to some extent that memory or re-program it with a different emotional viewpoint. Does any of this ring a bell?

DC: Yes. I'm aware of the re-consolidation research. So that has potential for developing new modes of therapy. Basically, what that does is you have a memory and then you elicit the memory to become more prominent in your consciousness through a reminder. Then there's attempt to reduce the impact of that memory—the intensity of the memory through essentially reminding people of the memory and then—and these are all mainly animal studies at this point—there may be some drug therapy that you alter the intensity of the memory so that it's not so fear-inducing

the way it was originally. So you reconsolidate the memory in a way that is not intense and not as fear-inducing.

DVN: As we wind down here I wonder if there are any final points that you'd like to make.

DC: I'd like to say one, thank you for having me on your show. I hope what we talked about today is useful to your listeners. And for those listeners that are faced with challenges in their lives, whether it's the economy and difficulty with employment or interpersonal relationships or whether they've had to face a serious trauma in their lives, I hope they've found this helpful and I want to leave them with the sense of hope and optimism that there's therapy out there, there are ways to feel better and move on with their lives.

DVN: That's a perfect close, and I really echo it. Dr. Dennis Charney thanks for being my guest today on Shrink Rap Radio.

DC: You're welcome.