



# **Coping with Technological Disasters Appendix C:**

## **Outreach Activity - Radio Education Program**

*Prepared by: Prince William Sound Regional Citizens' Advisory Council  
Original 1999, updated 2004, 2021*

As a companion to the series of articles from Appendix B, the radio programs in Appendix C provide additional community education information related to technological disaster impacts on communities from professionals who study technological accidents.

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# Introduction

**The radio programs noted here were developed for the original Growing Together program in 1995, and revised for the guidebook in 2004. We have included them here in the 2021 revision because we continue to find the core content relevant.** They do not capture the full body of knowledge available today about the social-emotional challenges of technological disasters, individual mental health, and community wellness.

More research should be done for your own particular needs. For example, you may want to seek out information related to trauma informed practices such as post-traumatic stress, resilience, mindfulness, or adverse childhood experiences.

In addition, the lines between technological and natural disasters is getting increasingly blurred. For example, after Hurricane Katrina there were several oil spills as a result of damage to facilities. Climate-related natural disasters have raised the general stress level in many communities and make it hard to know if there is a party at-fault for the impacts seen, such as drought, wildfire, changing species distribution, flooding, and rising sea level.

These programs were originally developed to be broadcast ready with a "lead in" and "trailer" provided by the organization using the programs to provide context and information concerning the specific situation in that community. If local communities pursue this type of outreach, it will be important to coordinate early with a local broadcaster, public relations firm, or other professional to assist with creation and recording of the final product to ensure it meets format, length, and other requirements to be aired or live streamed. Local broadcasters can often be requested to provide the "voice talent." As noted in the guidebook, the recordings of the original radio programs can be found at [www.bit.ly/RadioEdRecordings](http://www.bit.ly/RadioEdRecordings) and can be used free of charge.

Transcripts for each program are included below.

The radio programs were originally presented in five (5) thirty (30) minute recordings with the recommendation to be run on consecutive evenings and repeated at least three (3) months later for maximum effect.

The following steps are suggestions for use of radio/streaming programming in outreach activities:

- Contact all local radio station managers to determine policy on airing public service information.
- Ask station managers to provide information on peak listener times or how best to reach the community audience you are targeting.
- Negotiate for public service airtime or paid airtime during peak audience listening periods when possible.
- Announce the airing of programs in advance through the radio station, newspapers, promotional audio, and public scanner announcements. Contact local civic organizations, tribal offices, school officials, churches, and community centers to announce and/or display fliers advertising the programs. Promote the airing on social media platforms and website (news posts) making sure to note how people can stream the airing from the internet, if that is an option.

- Arrange for local mental health professionals to be available in the radio station each day of the airings, to provide additional information to those who call-in following the programs. If this is not possible, provide phone numbers of mental health professionals in the trailers and the time they will be available to answer questions.
- If possible, request the audio files from the station to post on social media. Another option could be to request the station live stream the segments on their social media platforms or on the platform of the organization using the programs.

# Growing Together: Community Education Program

Sponsored by Sound Alternatives and The Family Resource Center Cordova, Alaska

Developed in conjunction with The University of South Alabama

Funding provided by the Prince William Sound Regional Citizens' Advisory Council

## **Programs:**

Program One: "What are Technological Disasters"

Program Two: "Community Recovery"

Program Three: "Depression"

Program Four: "Anxiety and Post-Traumatic Stress Disorder"

Program Five: "Substance Abuse and Anger"

# Program One Transcript: What Are Technological Disasters

PRESENT:

RAY FARNELL, Host

DR. J. STEVEN PICOU, Professor of Sociology, University of South Alabama

DR. STEVE KROLL-SMITH, Professor of Sociology and Director of the Environmental Social Science Research Institute, University of New Orleans

DR. BILL FREUDENBURG, Professor of Sociology at the University of Wisconsin Madison

DR. DUANE GILL, Associate Professor of Sociology and research scientist at the Social Science Research Center, Mississippi State University

HOST: Today's program is the first in a series of five, 30-minute programs designed to provide information regarding technological disasters, their impacts, how we can better cope with such events, and what strategies communities can use to foster recovery. Today, we ask the question, what are technological disasters, and how do they impact people and communities? To address this question, we have with us four nationally known sociologists who have spent the last two decades studying various human-caused disasters: Dr. Steve Kroll-Smith, who is Professor of Sociology and Director of the Environmental Social Science Research Institute at the University of New Orleans; Dr. Bill Freudenburg, Professor of Sociology at the University of Wisconsin Madison; Dr. Duane Gill, Associate Professor of Sociology and research scientist at the Social Science Research Center at Mississippi State University; and, starting us off will be Dr. Steve Picou, Professor of Sociology at the University of South Alabama. Dr. Picou, what are technological disasters?

DR. PICOU: A disaster is a catastrophic event which disrupts the social, cultural, and economic structure of a community. Indeed, all disasters threaten community survival. We generally distinguish two specific types of disasters: natural and technological. Natural disasters are caused by extreme geophysical and meteorological activities. That is, they are unpreventable acts of God. Technological disasters, on the other hand, are caused by an extreme malfunction of human technology. That is, they are preventable acts of Man.

HOST: Dr. Kroll-Smith?

DR. KROLL-SMITH: Technological disasters are different from natural disasters in many ways, one being the pattern of social-psychological disruption that tends to occur in both classes of events. We know, for example, that victims of technological disasters, particularly those disasters that affect biospheric conditions, the immediate ambient air, for example, or local ground or water, tend to have long-term effects, effects that extend well beyond those of victims of natural disasters.

HOST: Dr. Freudenburg?

DR. FREUDENBURG: Let me pick up a little bit on one of the things Steve said, which is that social scientists started studying natural disasters about 50 years ago. They were trying to find out what would happen in the aftermath of a nuclear disaster of some sort, and nature gives us things from time to time that will wipe out an entire community, and they wanted to find out what the responses were. What they almost always found was that the responses were

remarkably healthy. People came through in great shape, and that continued to be the consensus, I think, of just about everybody studying the field until about the mid-70s, when a number of folks started finding disasters that seemed to be very different. That, unlike your traditional disaster you didn't have what was called a therapeutic community of people coming together afterwards, a sense of euphoria that, by golly, we survived the tornado. Instead, it was a much more long-lasting, much more painful set of responses that they found, again and again and again. And after a few years of documenting this, quite a few people, including several of the folks you are interviewing today, started to realize that there was one point of commonality to all of these disasters that really had long-term disastrous consequences, which is that they were not caused by God, they were caused by Man.

HOST: I see. Dr. Gill.

DR. GILL: Well, one of the things that I find unique about technological disasters is that they have secondary disasters that spawn from them. One of the things that you going to find in most technological disasters are litigation activities, and these litigation activities consistently bring on additional stresses, additional problems, that the community has to face. Another unique feature about technological disasters is that most communities, while they are prepared to deal with natural disasters, are not prepared to deal with technological disasters. The emergency response, emergency management is there for natural disasters, but not there for technological disasters, and as a result community suffer a lot more. There's not a good plan right now for technological disasters.

HOST: Well, Dr. Gill, do you feel that technological disasters do differ from natural disasters?

DR. GILL: Oh, definitely, they differ. Not only are they different, but technological disasters differ in patterns which are – there is a commonality of patterns to natural disasters, and there's a commonality of patterns that technological disasters create. In other words, communities respond to technological disasters in patterned ways. We can identify this, and they are not all that unique.

HOST: Dr. Picou.

DR. PICOU: One of the real critical differences, as Duane just noted, one of the critical differences is the lack of emergence of a therapeutic community in the community impacted by the technological malfunction. And – and let us think here in terms of two different patterns. One pattern, where you see people coming together, you have support mechanisms provided by the state and federal government, and then you have this outpouring of support by people who send soup and blankets and various and sundry items that will help the immediate needs of the disrupted community. The technological disaster results in a different phenomenon and, actually, we are very fortunate today to have the person who coined the word, the term, so-to-speak. Rather than therapeutic community, Dr. Freudenburg has pointed out we have what is the corrosive community, and in this situation a community fragments, segments, becomes divisive, and here we have a lot of uncertainty on the part of all of the people in the community with regards to exactly what is happening. Bill, would you like to address that?

*“...The technological disaster results in a different phenomenon ... the corrosive community, and in this situation a community fragments, segments, becomes divisive, and here we have a lot of uncertainty on the part of all of the people in the community.”*

*- Dr Steven Picou*

DR. FREUDENBURG: Yes. I was trying to think of, you know, when a bunch of us academics talk to each other, we use our standard lingo, and I'm trying to remember that most of the people listening to this won't have had the cursive twenty-five years of sociological training. So, in terms of trying to put it into simple English, I think that the differences between the technological and the natural disasters – this is an oversimplification which my colleagues will jump on me for, of course – but as an oversimplification, there are three kinds of differences, and Steve Picou has just mentioned one of them. The first of them is the ambiguity of harm. People who are studying disasters of the traditional sort – floods, fires, tornadoes, and so forth – quite logically assumed that the worse the damage physically, the worse the damage would be socially, which ordinarily would make sense. If you wipe out twice as many homes, that's a worse disaster. It turns out, though, that in many cases that have been studied of technological disasters, some of the worst stresses for people are caused not by the unambiguous damage, but by the ambiguous damage. You don't know for sure if that mine fire in Centralia is going to have contaminated your home, or, if it did contaminate your home, you don't know how bad the contamination is, and there is no way you can know. You may get cancer thirty years from now, and even if you do, you won't be able to prove that it was because of that contamination incident. There is something actually that helps the healing process if the tornado has gone by and the all-clear sounds, and you can come out and you look, and within a matter of moments you can tell that your house is gone or it's not, and it's over, and you can start to cope from there. But in cases where the fish that you have traditionally eaten are contaminated, or where your children may be contaminated, where you don't know if perhaps you've passed nasty things in your own genetic material on to your children -- on to later children -- there really isn't a time when the all-clear is ever sound – sounded. So, it's the ambiguity of the disruption that's the first problem.

The second is, what I call, the corrosive community. And the therapeutic community is something that you see every time there is a natural disaster. There will be TV shows, headlines and so forth the day afterwards about the tremendous heartwarming outpouring of support. People from all over the country will drop what they're doing, pick up shovels, help the victims, and it is very therapeutic to work with people to bring society back together, to bring your community back together. What happens after a technological disaster, though, unfortunately, is typified less by that kind of outpouring of help than by an outpouring of lawyers, whose job it is mainly to avoid blame for the people they are working for. So, here is somebody digging out from the most traumatic thing that's ever hit them, someone comes to town, and instead of offering them a hand, they offer the back of a hand. They say, this didn't really happen, my client isn't responsible and it's probably your fault anyway – you're a malingerer, aren't you? There is a lot of pointing of fingers, and instead of bringing people together, what happens, in what Duane has just called the second disaster, is a driving people apart, and it is corrosive. It's corrosive to the social bonds between people, and it's corrosive to the most sensitive material inside of people.

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*- Dr Bill Freudenburg*

Then, the third difference in my lingo – we call socio-cultural disruption – but basically what it



means is that you come to realize that a lot of things you've assumed, just aren't so. You may not remember much from your high school civics class, but you probably remember that the government is there to help you when something really disastrous happens. Here's something that really is disastrous and, instead of getting help from the government, the victims of these technological accidents often report that they feel victimized a second time. And if you can't believe the things that you were taught back in high school, if you can't believe the things you've taken for granted for the last thirty years of your life, what can you believe? And it's almost as if you find yourself with feet planted firmly in midair. The things you always thought you could count on, you can't. So, the ambiguity of the harm is part of the problem. It's made much worse by what happens from other human beings after the disaster, and the net result is your whole world, your whole way of understanding the world is disrupted.

DR. KROLL-SMITH: And that's interesting, socio-psychologically, insofar as, as an adult or a young adult, if, overtime you realize that what you know about the world is – or what you don't know about the world, I should say, is less than what you know, the consequences of that are usually that the person develops what we call a vulnerable self. A self that approaches the world as if it is going to be harmed. It's as if the world has shifted from “as if” – as if I know this – to “what if” – what if this happens to me, what will I do about this? That level of uncertainty generating that change in self to – from something that is fairly firm as an adult, fairly predictable as an adult, to something that is vulnerable has long-term consequences for the self and long-term consequences for questions of recovery.

HOST: Dr. Kroll-Smith, in dealing with the social psychology of trauma, do you think that spawns a little bit of paranoia among community members?

DR. KROLL-SMITH: I wouldn't use the term “paranoia,” but I would use the term “disillusionment” and I would use the term “skepticism,” perhaps “hyper skepticism.” I find that the term “vigilant” perhaps most appropriate, however. Most of what – as Bill pointed out – most of what can be taken for granted now is a question, and insofar as it's a question, one has to be vigilant in ways that one didn't before, and that's a burden on the self. I mean, it's hard enough to get through the day, go to your job, raise your kids, make sense out of the news, much less have to concern yourself with perhaps the immediate health effects of your local environment, the interim health effects of that environment, the long-term health effects of that environment, your relationship to extra local others who are now responsible for your destiny insofar as they're supposed to clean up the environment or help you understand your health, etcetera. When that kind of delicate fabric of what we know becomes a question, I think that doesn't create paranoia, but it does demand and extraordinary amount of energy on the part of the person that over time becomes or creates the condition for a pathology, which might be denial – I'm going to deal with this simply by denying it. And in that case, usually what happens is you have interjected anger, the person does have a reservoir of anger, has a reason to be angry, not directing anger in appropriate ways, directs it in appropriate ways, and you see problems in child abuse, in spouse abuse, and so forth. Sometimes you see some -- you find some obsessive-compulsive behavior. You find people who ritualize their lives to the point where everything becomes a kind of playing out, step by step, a kind of script, hoping that if I follow these steps nothing bad will happen to me. We see these conditions and others in communities that are among people that are responding to these types of disasters. And the outcome of this is what interests me as well, and the question, I think that interests the listeners, or at least some of them, is how can I move from being a victim to being a survivor?

And one way that you can do that is to realize or to own this vulnerability, to recognize it, to acknowledge it, and to move from there.

HOST: Dr. Picou.

DR. PICOU: Definitely, in terms of what transpires, I think we have this uncertainty which is so problematic that in many cases it leads to self-isolation. Remember, the therapeutic community will bounce this. The therapeutic community has no isolation. Victims are found. They're sought out, they're supported, they're hugged. Their immediate needs are met, and there's a lot of interpersonal support. So, there is a kind of collectivism that emerges. The technological disaster, because we are dealing with something that lasts over a long period of time, as people become more uncertain, as they become more vocal, as people have their basic orientation to day-to-day reality change to focus on this uncertainty of contamination, then you have people who would rather not go out there and talk about this anymore. I'm just going to stay here in the house and I'm going to avoid at all costs any kind of communication about it. This is part and parcel of the problem of long-term impacts from these human-caused events.

DR. KROLL-SMITH: I saw a t-shirt the other day that said "I survived Opal." My guess is that there is a t-shirt market out there for the survivors of Opal among those residents of Pensacola and east. You will not see a t-shirt that says "I survived the Love Canal." They're not sure they survived the Love Canal.

HOST: So that is what we addressed when we said the residual effect is what haunts people.

DR. GILL: There's a lack of resolution in a technological disaster. You do not know when it is over. With a natural disaster, you know when it's over. There are stages that natural disasters go through, and these stages do not work in trying to understand a technological disaster. So, you have the lack of resolution, you have the uncertainty, frustration, skepticism, disillusionment, isolation, more stress, and these are things which you should expect people who are victims of technological disasters to experience. They are not unusual feelings for victims of technological disasters. That's got to be recognized first.

DR. KROLL-SMITH: Let's go back to that stage model, just for a minute, because, in the natural disaster model there are six to seven stages, depending upon who you're talking to, but the last stage is always rehabilitation -- I'm sorry, the second to last stage is rehabilitation. The last stage is always recovery. What I've noticed in communities that are affected by technological disasters is they get trapped in those early stages, those warning, threat and impact stages. They get trapped in those stages, and they seem to relive them week upon week, month after month. I have not seen a technological -- er, a community impacted by a technological disaster that has upset the biosphere reach that recovery stage. They remain somewhere in limbo between those three -- the warning, the impact stages -- those two stages.

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- Dr. Kroll-Smith

HOST: Dr. Freudenburg, in the recovery, do you feel a need for the community to come together to try to pull themselves out of this?

DR. FREUDENBURG: There is, but it's tremendously difficult. You asked earlier, well, is this

just paranoia? Another way of thinking about it is that really those of us who think that we're normal may be the ones who don't quite understand what's going on. If you just start listing all the things that could go wrong every day - your roof could fall on you and kill you as you sleep, a homicidal maniac could walk down the street with a submachine gun. You see things on the evening news sometimes, but you could list an incredible range of things that could go wrong with us every day. And we have a word in the English language that's very useful, that these are "unthinkable" events, and part of what a normal society does, apparently, is to keep some of the unthinkable unthought. And one of the things a disaster - after a normal disaster, a natural disaster, we have a Federal Emergency Management Agency, we have authorities - think of that nice word "the authorities" - come in. They announce that certain things have been happening. The Red Cross is there, things that all of us have experience with and have some understanding of it, they all come together and help patch things together so you're back to normal really pretty quickly. We don't have that kind of an institutional infrastructure - to use the lingo - we don't have that kind of organizational backup for a technological disaster. Instead, we have lawyers after lawyers after lawyers. We have people who are suing each other, who are mad at each other, who are mad at the people who are suing them. You have some people who didn't do too badly and you have other people who, maybe because they're involved in lawsuits may have something to be gained by having those who didn't suffer so badly start to ask questions out loud about whether their friends and neighbors maybe are malingerers, maybe they didn't really get hurt so badly. And that's what really hurts is when the people who are close to you start raising questions about you, and, unfortunately, a lawyer whose job it is to represent a client and not to make people healthier knows full well how effective that technique can be. So, it's entirely possible that the very things that would help the most in moving people back to normalcy, you're not going to see, so long as there are lawyers involved.

HOST: Is there - to any one of you - do you find a difference in the size of the community that the technological disaster affects, in the way that they respond or recover?

DR. KROLL-SMITH: Well, communities have histories. All communities have histories, and those histories kind of load the dice for a particular kind of response. In communities that do not have good conflict resolution skills or have not developed collective conflict resolution skills, might have particular kinds of problems with these - with these disasters. But, I think that one could argue that rural communities are, perhaps, more vulnerable than urban communities to these kinds of events, if for no other reason than rural communities are dependent upon extra local centers of authority and resources, etc., for almost everything that goes on with them, certainly with a disaster that's beyond their means to manage. Urban centers, by their very size have more resources at hand for managing these - and also, by the way, we have done a fairly good job as a society of moving these technological risks, particularly those that affect the biosphere, towards communities that can't by their - that by and large are politically vulnerable to these kinds of events. I mean, two-thirds of the Hispanic community, for example, lives on top of, next to, or down the road from a hazardous waste facility. So, we've done a fairly good job of isolating settlements and making them more at risk, perhaps, than the urban settlements.

DR. FREUDENBURG: Rural communities can also be more at risk for just the opposite reason, which is that a lot of times people in rural areas have learned how to get along by depending on each other, and it is often, particularly in those communities where having the support of your friends and neighbors taken away from you by this kind of corrosive community, where that can

be the most disruptive.

DR. PICOU: In fact, I think the research record is pretty clear on this. I know the research that has been conducted following the release of radioactive water vapors into the air at Three Mile Island, we don't know how much was released, and, again, this shows you the uncertainties there, but we do know that after eleven years of research and well documented empirical research, I might add, we find that we have not only what would be called cognitive signs of stress and what we're talking about, that the people have intrusive recollections, ideas about the event pop into their head, etcetera, etcetera, but we find that there are physiological effects and these long-term outcomes. That is, people who have been angry for eight to nine years seem to be more vulnerable to various stress-related illnesses than we first expected. So, really, the pattern is one that we should take very serious heed of in the sense that technological disasters certainly last, their impacts last longer, and, in addition it seems that these impacts are very serious, not only for group functioning and individual behavior, but individual health.

DR. KROLL-SMITH: Right. These impacts are character-illogical. They change the self – in ways that the impacts of a natural disaster do not. By character-illogical, I mean that the self sees or the person redefines themselves, often as less worthy, often as a person with less self-respect. Certainly, a person with a diminished sense of efficacy. These are character-illogical changes that are, in my mind, markers of a personality distortion that far exceed what we typically find in natural disasters. Remember that, even if you lose a loved one, God forbid, in a natural disaster, our culture teaches you how to mourn. You know how to mourn. As difficult as that is, the pattern is in place. When your self or when you as a person are experiencing the kinds of events that have been described thus far, there are no scripts, there are no lessons, there are no books, there are no collective understandings of how to make sense of what it is that you're going through. And, Steve talked about that sense of social isolation, and I would suggest also that the personality feels isolated, insofar as it doesn't have the kinds of resources that are available when other kinds of traumas affect that individual.

DR. FREUDENBURG: In fact, if there is a cultural pattern out there, it's a pattern of blaming the victim. Steve just used the words, the phrase, that the people who have been victimized feel as though they are less worthy. There are other folks out there, many of them being paid quite well by the hour, whose job it is to say this person is a malingerer, it's all in his head, she's making it up, he's a whiner. And, in fact, the research shows pretty convincingly that these are real impacts. It also shows pretty convincingly that the affects of the lawyers and the other finger-pointers is part of the problem, but there is no way that I know of that somebody can make up a different catecholamine level in their blood five years after an accident. And these are the kinds of things – it doesn't seem to make much difference how it's measured, whether it's measured qualitatively, quantitatively, with survey instruments -- meaning, you know, I feel bad, I feel good – or with blood sampling. You find levels of stress that are substantially elevated years after the accident. And, again, this is in comparison with natural disasters where a week or two later, outside of, you know, having a sense of, boy, there's a lot of work left to be done,

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- Dr Steve Kroll-Smith

most of the psychological damage is gone.

HOST: And with that interesting comment, we will close today's program. Be sure to be listening next time when we will focus on community recovery. I'm your host, Ray Farnell, inviting you to join us again for Growing Together, a community education program sponsored by Cordova's own Sound Alternatives and the Family Resource Center. This program was developed in cooperation with the University of South Alabama, funding provided by the Prince William Sound Regional Citizens' Advisory Council. If you have questions or comments regarding this program, please stay tuned as most stations will air a live call-in program dealing with technological disasters.

## Program Two Transcript: Community Recovery

PRESENT:

RAY FARNELL, Host

DR. J. STEVEN PICOU, Professor of Sociology, University of South Alabama

DR. STEVE KROLL-SMITH, Professor of Sociology and Director of the Environmental Social Science Research Institute, University of New Orleans

DR. BILL FREUDENBURG, Professor of Sociology at the University of Wisconsin Madison

DR. DUANE GILL, Associate Professor of Sociology and research scientist at the Social Science Research Center, Mississippi State University

HOST: Today's program is the second in a series of five, 30-minute programs designed to provide information regarding technological disasters, their impacts, how we can better cope with such events, and what strategies communities can use to foster recovery. Today, we will focus on community recovery. To address this question, we have with us four nationally known sociologists who have spent the last two decades studying various human-caused disasters: Dr. Steve Kroll-Smith, who is Professor of Sociology and Director of the Environmental Social Science Research Institute at the University of New Orleans; Dr. Bill Freudenburg, Professor of Sociology at the University of Wisconsin Madison; Dr. Steve Picou, Professor of Sociology at the University of South Alabama; and starting us off will be Dr. Duane Gill, Associate Professor of Sociology and research scientist at the Social Science Research Center at Mississippi State University.

Dr. Gill, are the communities around Prince William Sound really that different from other communities affected by a technological disaster?

DR. GILL: I think if you look at communities that have been impacted by technological disasters, communities such as Love Canal in New York, Three Mile Island, the Livingston Train derailment and various other communities that have been contaminated by hazardous waste or hazardous waste sites, you find common patterns. And all these common patterns we've talked about in the past, about the uncertainty, the lack of resolution. So, what's going on in communities of Prince William Sound are normal, normal responses to a technological disaster.

The literature that is starting to come out that compares the psychological and the sociological responses of residents to Three Mile Island or Love Canal or Times Beach, Missouri, that was contaminated by dioxin, Centralia, Pennsylvania, that had an underground mine fire – has a underground mine fire under it – suggest that the patterns that we're seeing are not dissimilar from the victims of violence. Victims of violence tend to find themselves unable to trust their immediate surroundings, they find themselves behaving in untoward, that is, strange, ways. For example, we find that children who are victims of family abuse often do poorly in school. Children at Love Canal did poorly in school during the active phase of the disaster. Children in

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- Dr. Duane Gill

Centralia, their grades dropped over the years as this disaster unfolded. We find in victims of violence a tendency for some kind of substance abuse and addiction behavior, or addictive behavior. We find marital problems in families in which a person has been a victim of a violent crime. We find relationship problems emerging in victims of technological disasters. These patterned responses, these similarities in patterns, suggest that it might be helpful to begin the process of recovery by understanding yourself as having experienced a violent event and begin to move in the way in which victims of violence move, towards resolution of that violent event.

DR. PICOU: The larger society has some level of understanding about victims of violence, but the larger society doesn't have a very good understanding about the victims of technological disasters. They can't understand why these communities just can't get over it. The larger society doesn't understand the problems that are common to a technological disaster, and that puts extra pressure and extra stress on that victimized community.

DR. GILL: Also, it's not uncommon for victims of violent crime to be expected to recover rather quickly from that and re-enter normal life. But, you're right, there is a way in that violence is known in a distinctly different way in which this technological violence is a mystery.

DR. PICOU: Following up on your comments, Steve and Duane, it's interesting to note that in our research in Prince William Sound we have found that the stress levels remarkably follow a pattern quite similar to rape victims in terms of the actual numbers we're talking about here. Certainly, this is a comparison, but it is a comparison that provides us with some enlightenment with regards to the intensity of the chronic or the long-term pattern of stress. And if, in fact, victims of the Exxon Valdez oil spill three years after the spill had measurable, documented stress levels that were equivalent to rape victims some twenty-four months after experiencing the assault, I think that tells us something too, because these are real numbers, and they show quite clearly that we do have a very consistent parallel here.

DR. KROLL-SMITH: I will say this about the status of a victim that probably needs to be said. It's not a status from which personal development, a sense of biographical fulfillment, is possible. It is an arrested state of development. And the question becomes for any individual how to move away from, if possible, to get out of that status – this victim. But this notion of the victim has permeated society, and it makes it more difficult for those people who are actually suffering from a crisis state to claim that identity with any legitimacy, and then to move from it to something that would allow them to continue their course of life development. But, in sum, to remain a victim is to remain arrested in your capacity to develop.

HOST: So, not to wear that victimization as a medal, but to move beyond that. Do you find that happening sometimes, people glory in the disaster, so to speak?

DR. KROLL-SMITH: Well, there are secondary gains to being a victim. But there are – and, clearly, if I have the flu, for example, I can get some sympathy from my family, limited but nevertheless some sympathy from my family. I see very few secondary gains associated with the victims of technological disasters. In that sense, it's an authentic victimization, in a way in which, perhaps, a fabricated one to get sympathy is clearly not.

HOST: Sure.

DR. FREUDENBURG: Also, Alaska is not exactly known as a place that likes whiners. In fact, the one other commonality across the technological disasters we haven't talked about too much is that a lot of times the people who are the victims feel as if they are the only people in the world

who feel that way. It must just be me – is the common refrain. A lot of people don't realize how many others are in the same boat that they're in. But Steve is right that that is a first step, to realize that there are a lot of other people going through the same thing that you are, they feel the same way, what you're feeling is real, it is normal. You don't deserve to be called a malingerer just for that. But that eventually, even though it is real and it does hurt, you need to move out of it because, in fact, the support system that's out there for natural disasters, the Federal Emergency Management Administration, or even the kind of rape crisis line, rape crisis support line that we have for other kinds of criminal victimization, just aren't there for the technological victims. They really do need to have some of that legendary independence of Alaskans.

DR. KROLL-SMITH: That's right, and that would be true if you were in Iowa or California or Alaska. Insofar as the one thing the victim has control over is his or her emotions, if they choose not to exercise that control, it's going to be very difficult for them to move out of that victim status, or if they don't recognize they have that control, it's going to be very hard to move out of that victim status. But the one thing that they can control is their emotional response to what goes on, and that's the place where you start to recover. Once you're recovering, in a very primitive sense, is control over your affective and emotive state, which, by and large has been running out of control since the fear of the spill or the fear of the gases or the fear of the toxins enters the environment and causes this host of unknowns. The natural response is if I can't understand it cognitively, I'm certainly going to act out emotively about it. And eventually what the person learns is that simply acting emotively or acting effectively is really the only thing that they can do. That's really the place to start in the process of moving out of that notion of victim is to claim some control over the emotions. What I can control is how angry I'm going to get about this.

DR. PICOU: And, and, you know, this becomes extremely problematic because what happens is that immediately following the technological accident, oil spill, mine fire or whatever, people are outraged, they're angry, and they're mad, and they're mobilized, and they're moving, and they're responding, and they're trying to come to grips with this phenomenon. But, by definition, the phenomena, you can't come to grips with it. And over time, as the impacts continue, there is a phase of burnout, where people just get completely fed up with it. Now they're in a double bind because they're still angry and they don't have the energy or the wherewithal to continue the fight, and I think this is the chronic nature of the phenomenon we're talking about, and it needs to be recognized because you certainly can't stay mad for five years. If you do, you're going to be very tired. It seems to be that straightforward.

HOST: Well, what about people who say, well, things will never be the same. Do they need to just accept and move on or ....

DR. KROLL-SMITH: I remember a case I was involved in, one of these toxic tort litigations, the plaintiff group kept saying to the attorney I want you to make us whole. I want you to make us whole again. I want this suit to make us whole again, and he was smart enough to say to them, it's not going to make you whole again. We can't give you enough money in the world to make you whole again. And when I came in later and said to them, which perhaps some of them didn't want to hear, was that ultimately it was their responsibility to make themselves whole again. That does not take responsibility away from the polluter, it does not take responsibility away from the community that was non-supportive, but it does place the immediate



responsibility about whether I'm going to be a whole person again on the individual.

DR. FREUDENBURG: There are things that we do in the criminal justice system. I mean, sometimes it's seeing the criminal punished that in a sense helps the family of the victim feel better afterwards, but that still leaves the victim and the family of the victims in that victim role. And some of the people in this room have done some of the leading research on the topic that part of what happens – let me back up just a step. What happens after a disaster tends to be a negative self-reinforcing spiral. People feel horrible, they are treated like dirt, that makes them angrier, they treat each other worse, the community splinters. It just goes down and down and down and gets worse and worse. One of the things that the people on your radio program today have done some of the research on is the importance of making a decision, and I'm not sure how you can find the strength to make this decision, but some people can, to step out of that self-reinforcing spiral-- anger, hurt and victimization – and start trying to help some other people. Just to refuse to accept the next – it's a little bit like a childhood game where two kids are calling each other names where one of them, for whatever reason, decides to stop calling the other one a name, and that ability to choose, just in the act of choosing, that may be one of the things that helps to break the spiral a little bit, just to say I'm not going to do this anymore. I'm going to start trying to speak out in a more positive way to people in town, even if I don't really like them or I'm still mad at them. I'm going to start letting bygones be bygones.

DR. KROLL-SMITH: That's excellent point because to get back to this idea of a victim, one can't be a victim and also be a parent. One can't be a victim and be a friend. One can't be a victim and be a professional or work in the shipyards or whatever it is that one does. One is simply a victim. It's a master status. I mean, it captures the person. And what that means is essentially is that the person is extraordinarily self-absorbed. And there's a period of time when you need to be self-absorbed in which you need to do everything you can to keep yourself afloat. And I'm not saying that to – that someone who is a victim is necessarily someone who has a problem. At a point, however, if the self is going to continue on its life course, whatever direction that might be, it is going to have to release itself from this idea of being a victim, allow itself to be a friend again -- allow the person to be a friend again, allow the person to be a husband again, a wife again, and so on. If you talk to a family of a victim, you'll hear that family phrase that victim in such a way as that person is almost now outside the moral boundary of our little community here. We love that person, we hurt for that person and so forth, but they're really not part of us now, they're a victim. So the question for the person is to get back into that moral community, and Bill pointed out a very good way to do that, and that is to turn your attention when you can, when you have the energy and the resources to do it, away from yourself and on to someone else or on to some other activity.

DR. PICOU: That's very important, Steve, and I think the different kinds and types of victims of technological disasters needs to be discussed. For example, you can have a direct victim. Let's take the Exxon Valdez oil spill. In this case, the direct victim would be people who experienced oiled resources directly or people who commercially fished in Prince William Sound and their resource was very much oiled and threatened. So, you have people who were directly impacted. Then you have people who are indirect victims, and here we have the businesses and the various crafts and skills and work activities that support commercial fishing.

Certainly, in this case, the impact of the disaster is indirect on them, but nonetheless real. Then you have what we would call context victims. In this case, this would be people who are maybe

not directly or indirectly impacted, but who actually observe the problems that we've discussed on the program today, the problems of uncertainty, quarreling, fractionation, segmentation in the community, and they just don't understand why those people can't get along, why they can't quit whining, and so they're upset by social context in which they live. They will tell you, I wasn't affected, I'm not hurt, but all those other people are just crazy. And then you have what we would call entry victims, and these would be people who come into the community over time, the impacts are continuing, they enter into the community, they have no understanding of the history, the nature of the victimization, they see people in trouble. They enter and they become part of the chronic impact and they experience problems directly relating to the original event. So, there are various types of victims of these things.

DR. KROLL-SMITH: I would also say – and if you're paying attention, you hear us shifting back and forth from a kind of collective idea of victim to the person as victim, and they're both germane to any discussion of technological disasters. Going back to the person as victim, I would say that helping the individual understand how he or she is responding to this event is not independent of that individual appreciating that they had a personality prior to the crisis, and that this personality has learned how to respond to stress. It may have learned some good things about how to respond to stress, and it may have learned some bad things about how to respond to stress. Both of these things will be important in how that individual responds to the present crisis. So, if you will, the pre-spill personality of the individual will be a factor, and how that personality makes sense out of, adjusts, or fails to make sense out of and adjust to the present crisis. And I think it's important then to encourage the person to be looking at those patterns that help them respond to crises in the past and those patterns that kind of got in the way of their ability to respond to crises, and watch those patterns, monitor those patterns, be reflexive about those patterns as they face this kind of long-term crisis of a technological disaster, because those, if you will, those pre-spill personality characteristics will play into how they are responding to the present event.

DR. FREUDENBURG: Also, to the extent they are able to, they may want to try to think about the people around them. We all know that some of our friends need different kind of strokes than others do, but if there is a self-reinforcing negative spiral and you want to break that spiral, and if you are able to break it in your own case, you may be simultaneously helping somebody else to break it. Maybe you can offer a little bit more kindness than you absolutely need to offer to someone in a way that will help that person feel better and to help someone else in turn. I mean, it's possible for a spiral to start spinning in the other direction too. It's a lot harder and it will take a lot longer, but it has to start someplace.

DR. GILL: I think to get back to the original question and maybe summarized some of this, can you return to the way that it was? I don't think you can. You can transform into something else, whether it be transformation by an individual or community transformation, and it is really up to the individual and the community to choose how that transformation will take place, and I think that is where we need to be looking at. You're not going back. You can't get back to where you were, but you can choose where you want to go.

*“Can you return to the way that it was? I don't think you can... You're not going back. You can't get back to where you were, but you can choose where you want to go.”*

*- Dr Duane Gill*

DR. PICOU: And certainly, a key in this turning point is education. People who have been victimized by technological disasters, first of all need to understand the nature of the beast, so to speak. Professor Kai Erikson, in his latest book, calls it a new species of trouble. And I think this is very informative. The title is very informative.

So, education can first of all allow people to be conscious of what happened to them, to understand their situation, as well as provide a basis for developing leadership. Certainly, good leadership has to emerge, an educated, informed leadership, and then access to expertise and being able to develop some type of actionable strategy from the education, from the

*“Most people are unaware of the fact that technological disasters are in and of themselves a new species of trouble.”*

- Dr. Steven Picou

leadership, and from the available expertise. I really believe that most people are unaware of the fact that technological disasters are in and of themselves a new species of trouble. Therefore, we must respond in new and imaginative ways to try to provide some basis for fostering community transformation or some type of recovery dimension.

DR. FREUDENBURG: And we need to educate, not just the people of Cordova and Prince William Sound, but all the rest of us as well. This really is a new species.

DR. KROLL-SMITH: Well, the people of Prince William Sound will educate us in their responses.

HOST: Well, gentlemen, this has been all very informative. In our closing remarks, I would like to go around the table and maybe we can address what can people do to help the situation in their communities. Dr. Picou, if you would start off the responses.

DR. PICOU: Well, we certainly know a little more today about the chronic impacts of technological disasters than we knew, say, ten or fifteen years ago, and certainly one of the needs that is critical is that people should be sensitive to others, and essentially there should be an effort on the part of members of the community to understand. I think Bill Freudenburg said it perfectly a little earlier, that you may want to go out, a little extra effort, to try to understand that certain people may be having serious problems because they have been impacted by a technological disaster. So, certainly, I think, in a very basic way, hugs would certainly help a lot, and understanding certainly would help a lot, and I think a renewed interest in the community as a collectivity, and commitment to contributing to where that community is going to go into the future.

DR. KROLL-SMITH: If I had to give a community a mantra to say over and over again as it works its way through this crisis, it would be something like, we are all hurting but in different ways. And if you can approach one another and yourself in the manner in which – in that manner – and saying in effect, well, my neighbor has a different set of concerns, but he’s hurting. I myself have a set of concerns; I’m hurting. And if you can sort of remember that everybody is hurting, but they’re not hurting in the same way that you’re hurting. They are hurting in a little different way, but hurting is hurting. That might be a basis for beginning to manage the stress that appears at the collective level and also at the personal level.

*“Remember that everybody is hurting, but they’re not hurting in the same way that you’re hurting. They are hurting in a little different way, but hurting is hurting.”*

- Dr. Steve Kroll-Smith

HOST: Dr. Freudenburg.

DR. FRUEDENBURG: I guess I would – to try to wrap up – focus on four lessons, one of which do something that the residents of Prince William Sound and other technological disaster areas have taught researchers, the other three being what I, as a researcher, would like to offer back. The lesson that they've helped teach me and people like me is that the way we used to think about trauma was that it was an individual characteristic. There is something wrong with Uncle Jack. He is crazy. He is a crazy individual. What we find, not just in Prince William Sound, but over and over and over again in cases of technological disaster is that there is pain not just in each individual as an isolated atom, but that there is a pain in the whole community. Some of the injury has been not just to the tissues inside of the head, but to the arrows that hold us all together or push us apart. The trauma is collective, every bit as much as it is individual, and in a strange way I think those of us who are researchers owe a debt of gratitude to the people of Cordova, Tatitlek, and the other communities in the Sound for helping to teach us that lesson.

What can we as researchers offer in return? One of the things we know is that if you live in Prince William Sound, you may be one of the people who is feeling a lot of pain. You certainly know other people who are feeling that pain. Number one, that pain is real. It is not just in your head or that other person's head. Number two is that that pain is not your fault. It's not the fault of you, your friend, your cousin, your neighbor, the person across town. It was caused by this technological accident, which was caused by human beings who weren't doing what they should have done, and to feel anger at that is perfectly reasonable. Lesson three though is that while the accident was not your fault and while the pain is real, what you do about it is your choice.

HOST: And, finally, Dr. Gill.

DR. GILL: I would say that you should remember first of all that you're not alone. It's typical to feel certain things that you're feeling. It's not abnormal to feel these things. You should educate yourself as to what happens in technological disasters and realize again that you are not alone, and finally, you can help yourself and help your community by helping others.

HOST: And with those interesting comments, we will close today's program. Be sure to be listening next time when we will focus on individual reactions to technological disasters and coping skills. I'm your host, Ray Farnell, inviting you to join us again for Growing Together, a community education program sponsored by Cordova's own Sound Alternatives and the Family Resource Center. This program was developed in cooperation with the University of South Alabama, funding provided by the Prince William Sound Regional Citizens' Advisory Council. If you have questions or comments regarding this program, please stay tuned as most stations will air a live call-in program dealing with technological disasters.

# Program Three Transcript: Depression

PRESENT:

RAY FARNELL, Host

DR. KATI ARATA, Assistant Professor of Psychology, University of South Alabama

DR. KENT WELSH, practicing psychologist, Mobile, Alabama

DR. J. STEVEN PICOU, Professor of Sociology, University of South Alabama

HOST: Today's program is the third in a series of five, 30-minute programs designed to provide information regarding technological disasters, their impacts, how we can better cope with such events, and what strategies communities can use to foster recovery. Today, we will focus on depression and how it impacts victims of technological disasters. We will also address how people in affected communities can respond. To address this topic, we have with us two clinical psychologists: Dr. Kati Arata, Assistant Professor of Psychology at the University of South Alabama, and Dr. Kent Welsh, who has a practice in Mobile, Alabama. Also joining us is Dr. Steve Picou, Professor of Sociology at the University of South Alabama.

Dr. Picou, give us an overview of our previous programs, and then tell us about today's focus.

DR. PICOU: In the last program, we discussed the impacts of technological disasters, how communities respond, and mapped some strategies for community recovery. One of the individual symptoms of technological disasters is a depressive reaction on the part of some individuals. Now, essentially, depression is a very common psychological malady throughout the society. There is a normal rate of depression, and, in fact, most people at one time or another experience some bouts with depression. The important characteristic here is that for technological disasters we know that the impacts last a very long time. Given this, we found in research at places like Three Mile Island, Love Canal, Chernobyl, a sense of depression among victims. Certainly, our data and our research in Prince William Sound demonstrates that depression is also characteristic of a number of victims of the *Exxon Valdez* oil spill. So, essentially, we are isolating one individual response and we're going to focus on what it is and how individuals can cope or better respond to this negative impact of technological disasters.

*“There is a normal rate of depression, and, in fact, most people at one time or another experience some bouts with depression. The important characteristic here is that for technological disasters we know that the impacts last a very long time.”*

- Dr Steven Picou

HOST: Dr. Arata, what is depression?

DR. ARATA: Depression is an everyday term that we use for a mental disorder called major depression. Major depression is very common in all people. In fact, as many as one out of four women and one out of eight men will experience major depression at some time in their lives. Many people think of depression as being like the common cold of mental illness because it's so common. Lots of different things can cause major depression. One of the causes that's relevant here is that stressful events are very often a cause of depression in people. We also know that, without treatment, as many as fifty percent of people who have major depression will continue to have problems as long as a year. So, it can be a serious problem that can affect people's

physical functioning, their social functioning, and even their role functioning.

HOST: Are there many cases of major depression associated with technological disasters?

DR. ARATA: Definitely. We find that with the long-term impacts, as people start realizing the kinds of effects the disaster may have had on their lives, depression can be a chronic problem that's being produced. We know from research we've done in the Cordova community that as many as thirty percent of the people we surveyed were currently experiencing significant symptoms of depression.

*"We know from research we've done in the Cordova community that as many as thirty percent of the people we surveyed were currently experiencing significant symptoms of depression."*

- Dr. Kati Arata

HOST: Dr. Welsh.

DR. WELSH: Well, one of the things that I think is important here is that we think in terms of the matter of degree. Everyone experiences periods of sadness, periods of grief, periods when they are in a bad mood, and those are sort of minor instances of what we're talking about here as depression. When those experiences last for a long time, when the period of time that I feel sad last for a long time, then we start calling it depression. And so, we're really talking a matter of degree and a matter of something that everybody has experienced, but perhaps not to the extent of being clinical depression.

HOST: Dr. Picou.

DR. PICOU: Yes, I think that when we look at technological disasters, we find that the inability to reconcile the disaster and the inability to generate a therapeutic community in which people can express their concerns and their emotions, over a long period of time then people tend to become a little more reclusive, and depression of course is a consequence of this pattern.

HOST: Dr. Arata, are the people in the Prince William Sound area that different than others who have experienced a disaster?

DR. ARATA: Well, the main difference might be the differences that you find sometimes with natural disasters versus technological disasters. With the natural disasters you typically find with the research that the effects are more short term – and also more immediate – that a natural disaster is often so immediately devastating that you have a lot of high levels of stress and symptoms immediately after the disaster, and that begins to taper off. But the technological disaster, which you may find is rather a slow increase in symptoms, that it can take time for the full impact to really be recognized by the community, and so rather than that high level initially with natural disasters that tapers off, you actually get maybe a more insidious onset. It just kind of slowly builds as the impact of the disaster becomes more obvious. As more and more problems develop, then the symptoms may increase.

HOST: So, depression comes on so slowly sometimes that a person may not realize that he or she is experiencing depression?

DR. WELSH: That's right. It can be a very slow onset type of problem that builds up over a period of time, and then at some point the person begins to realize, hey, I really feel miserable – this is – my life just isn't going the way I want it to -- and at that point the person begins to identify perhaps with the label of depression. But, hopefully, being able to recognize some of the signs and symptoms a little earlier can kind of head that off, can kind of prevent some of



the more serious depressive problems.

HOST: Are there particular types of depression that apply only to areas that have been affected by a technological disaster?

DR. ARATA: I think, as Dr. Welsh said, really, it's going to depend on the degree we're looking at. That -- it's very possible when a disaster hits that nearly everybody in the community probably experiences some of the symptoms of depression. What's going to happen is, over time, many people, the symptoms will go away. For some people, the symptoms will continue. Some of the signs for somebody that they have a serious depression would be things such as, in addition to having a depressed mood which we think of as being depression, they also have problems such as having difficulty sleeping, problems with their appetite, having a decrease in energy, not feeling like doing the things they normally want to do. Also, finding that when they do things they normally do, they don't find any pleasure in those. So, they have a decrease in the pleasure they get in their activities. They also find that they have low self-esteem, feel bad about things, tend to blame themselves for things, difficulty concentrating and difficulties with attention, and in very severe cases you could even find that people might even become suicidal. Again, most people aren't going to have all these symptoms, but for somebody who has four or five of these symptoms, it does suggest a serious problem.

HOST: Dr. Welsh.

DR. WELSH: In terms of the symptoms of depression, one of the other symptoms is change in appetite. Sometimes people will eat too much during this period of time, and sometimes they'll eat too little, and so change in weight, weight gain, weight loss, that's a symptom. But there's another factor that I think pertains particularly here to a technological disaster, and that is a feeling of helplessness, that this often precedes and really makes worse the subjective feeling of depression. When I feel helpless, when I feel like I can't really do anything about myself and my condition and the things that are happening to me, well, then, one of the things that happen is that I tend to give up, and when I give up that's when I start feeling depressed.

*"But there's another factor... and that is a feeling of helplessness, that this often precedes and really makes worse the subjective feeling of depression."*

- Dr. Kent Welsh

HOST: Well, Dr. Arata, we've talked in general about signs and symptoms of depression. Let's focus in now on signs and symptoms of depression that are found in areas affected by a technological disaster.

DR. ARATA: Well, probably the biggest thing you're going to see is the isolation that -- one of the things you find when people are depressed is there's a tendency for them to withdraw. Part of that goes with the symptoms. They don't have any energy, they don't feel like doing anything, they don't get any pleasure in things, and what happens is this creates sort of a vicious cycle. They don't feel like doing anything, so they stay at home and isolate themselves, and that may well be the one thing that they could do to feel better, would be to get out and do things with people. So, that can be one of the major problems that people tend to isolate themselves. This also fits with the problems with trust that Dr. Picou brings up. As people's loss of trust increases, one thing that will happen is that not only will they stop trusting institutions, but they may even stop trusting each other, and so people are more likely to isolate because they don't even feel like they can trust each other now. Following a disaster,

while initially people may pull together, over time resentments can occur as people may feel that somebody else got a better deal, somebody else is getting away with things or whatever. So, it really divides up the community as they're all fighting for this common pot.

HOST: Dr. Welsh, do community members tend to turn on each other as a result of depression and then not know why?

DR. WELSH: Well, that's certainly a possibility that you're increased irritability, increased dissatisfaction, with the way things are going for myself, those kinds of things can certainly impact interpersonal relationships, and people can certainly get on each other's nerves, so to speak, and lead to further breakdown in the more traditional communication patterns in the community, breakdown the relationships. Maybe I've been getting along fine with my neighbor here for a long time, maybe we'd go down and work on the boat together, but, you know, maybe I'm just not feeling like it anymore, and so I'm no longer carrying on that relationship as I had before. As Dr. Arata mentioned, people will tend to withdraw, and that kind of thing will pull the community apart and keep people from interacting.

HOST: Dr. Picou, is there a problem with depression among those community members in the Prince William Sound area affected by this technological disaster?

DR. PICOU: There's a significant problem of depression for people who have been victimized by the oil spill for a long period of time. Certainly, we've got to be aware of the fact that sometimes events seem totally uncontrollable. People who live in the Prince William Sound area are very self-determined, hardy, individualistic-type people. They have their own control of the situation. And I think that the data from Three Mile Island, Love Canal, and other major technological disasters in the past, we find that, with time, the continuing characteristic is depressive symptoms. Essentially, the opportunity for understanding that this is a common characteristic, not only is it common for other victims of technological disasters, but it's a common characteristic throughout the population in general, I think that the first step toward responding toward depression is to have a firm grasp of what it is, the fact that it's exaggerated with long-term technological disaster impacts, and we need to meet it head-on, so to speak, and to try to overcome it.

HOST: Dr. Arata, let's talk about isolation. Now, the people of this area are very self-reliant, so isolation in itself is not bad, correct? It's when people intentionally isolate themselves that you see a problem come up?

DR. ARATA: Definitely. What we're looking for is kind of a change. These people may not be people who did a lot of social activities before, but what they did do is now being decreased. And, again, it's that difference – I choose to be alone because I want to reflect on things versus I'm just going to shut everybody out because I don't feel good, I don't want to talk to anybody, I don't want to do anything. So, it's a different kind of isolation than perhaps just being alone. It's really two different things.

HOST: Dr. Welsh, what are some other symptoms of depression?

DR. WELSH: Well, there are some particular thought patterns and beliefs about the world that people will often sort of get into as they're becoming more depressed. Oftentimes, people will start to have more negative views about themselves. They'll start thinking more negatively about themselves, and this, again, relates to the helplessness that I, in the past, may have been quite self-reliant, quite able to take care of myself, but now I can't so well, so I'm not as good a



person for some reason, I'm not as able to do things as I was. Another idea is that I'm not getting as much pleasure from the world, that things around me aren't going the way I would like them, that the environment isn't the way I want it to be, and so the person begins to think negatively about what's going around him or her. And the third part of these, the third thought, is that the future is not going to get much better, that things are going to stay the way they are, that I'm not going to be able to improve or that things are not going to improve around me. So, basically, those three ideas are kind of summarized in the idea that I'm no good, the world's no good, and it ain't gonna get no better.

HOST: How do community members perceive the impact of a technological disaster?

DR. PICO: Well, I think the impacts are perceived from a number of different ways. First of all, there's the direct contamination of the biophysical environment, which is something that was horrendous certainly when the spill occurred. You also have the fact that the spill generated the litigation. And I know that there are people probably listening to this program and they can't figure out if they're more depressed over the spill or over the litigation. And that point is made to demonstrate that there are secondary activities which are very disastrous to people who live in communities that have been impacted. The litigation, certainly, again, adds fire – flame – fuel to the fire, so to speak, and so we have a compounded situation. Of course, in communities that are heavily dependent upon the environment, such as Cordova, where we have resource harvests of fish and various other things that make up the community's activities on a yearly basis, I think the issue here becomes very much the future. Consequently, as people ponder the future and they're all devoted, let us say, to commercial fishing, subsistence harvest, etcetera, certainly depression has impacts on families and people around. So, essentially, what we're talking about is a slow process over time where the chronic consequences are almost as debilitating as the immediate, acute, initial consequences.

HOST: Dr. Arata, let's focus on management and treatment options for depression.

DR. ARATA: Well, I think that there are two ways of dealing with depression. One, you may be trying to deal with it on your own, particularly if it seems like you don't have that many symptoms. The other issue is going to be when should you go for help? Maybe first we can talk about some of the things you can do for yourself, just to see if you can pull yourself out of the depression. Some things involve just changing your behavior. Recognizing that a tendency to isolate and withdraw is a symptom of depression and can actually increase depression, the person may try to actually make themselves do things to stay active. While they may not initially enjoy doing things that they used to do, over time they'll find that it kind of pulls them out. We've all experienced probably how it feels to sit around all day long, and the longer you sit there the less you really want to do anything. Yet, when you're very busy, you start to get more energy and be more interested in doing activities. So, staying active or getting active may be part of it. And by active we mean just enjoying hobbies, doing things with people – exercise can be a very beneficial thing for dealing with depression. Other than just being active, it also can be useful because of the kinds of chemical changes it can produce in your body, and if you've been gaining weight from an increase in appetite with depression, exercise might be part of that solution.

HOST: Dr. Welsh.

DR. WELSH: Well, I wanted to underline what Dr. Arata is saying and emphasize -- do something. The motivation to get out and move around may be kind of low, but do something.

Go down and change a winch on the boat, go down and change a distributor on your truck. Do something that will be getting away from the pattern of withdrawal, pulling back into your own head, so to speak, and just sitting, thinking, staring at the television. Do something.

HOST: Dr. Picou, do you have some feelings on – in particular – the community here at Prince William Sound, what people could do to involve themselves back in the community.

DR. PICOU: I think one of the strong points of the local culture in Prince William Sound communities is their consideration and willingness to help others. We talked about individual competitive types, but at the same time we certainly know that people in frontier communities are very helpful. They help one another. So, I guess the important point, not only underlying – underlining – the idea to get active, would be the point that you need to make yourself available to go out and help others. And, essentially, you may not be depressed. We know that technological disasters, in particular the data that we've looked at, two out of three people are not significantly depressed in the Cordova and in other communities where data has been made available on the impacts of the Valdez spill. So, essentially, if you're not depressed you can go out and certainly help others and, and I think that's the key. That may be one of the important threads for responding, at least to having a positive collective response, to the impacts that relate to depression. Certainly, when you're aware of the fact that these technological catastrophes actually segment and fragment communities, then that at least is the first step toward understanding that others need help, and then, of course, once you start acting, then we have essentially reversed the process.

HOST: Dr. Arata, are there other suggestions for people trying to help themselves manage depression?

DR. ARATA: Definitely. One of the other things to be looking at, the kinds of thoughts you have. As Dr. Welsh said, one aspect of depression can be what we call some distortions in the way you think about things, being very down on yourself, down on the world, a tendency to think that nothing's ever going to get better. One thing that I find is that often people think that their thoughts are not something they can control. That's just the way they think. But reality is, it is something you can change. Part of changing it is really to become aware that you're making these kinds of statements, to catch yourself thinking these things. Often, it's easier to hear it in other people than ourselves. You hear people saying things like things will never get better – you know – life is just never going to be the same. And while that may be the way you feel, what you've got to look at instead is say, well, things have changed, but what can I do to make things better. So, really trying to work on changing your thoughts to focus more on the positive. If you're sitting around feeling worthless and terrible and -- I've never done anything worthwhile in my life -- to look at that objectivity and say, well, what have I done? What are the things I've done with my life? How have I been self-reliant? What are the things that I have been able to accomplish, even despite the setbacks that the oil spill might have brought? So, working on recognizing negative thoughts and trying to change those thoughts.

HOST: Dr. Welsh.

DR. WELSH: Well, along a similar line as Dr. Arata, research has found that people who feel depressed are often oriented in time more toward the past. That they are looking at things that they've lost or things that they've given up, or bad things that have happened or bad things that they've done, and so they orient themselves towards the past to a great extent. So, right now, in the present, attempting to look more at the present and more toward the future, trying

to catch myself if I think, well, oh boy, I used to be able to do this but I can't do that anymore. I used to be able to, you know, go fishing. Well, I can't do that anymore. Or, I used to be able to go, you know, do some other activity. Well, I can't do that anymore. As I focus in that way, what I wind up doing is making myself feel worse. As I can focus on, well, what can I do today? Can I go drive down the road here for a- ways and look at the wildlife or look at the glaciers or whatever, as I can do things like that, I am more likely to be able to help myself and start to feel somewhat better.

HOST: Dr. Picou, is it that easy to just say I'm going to change my attitude, especially given the situation in Prince William Sound?

DR. PICOU: Certainly, not, and the important thing that we're trying to point out today in this program is essentially awareness, and then action through awareness is an important strategy to take. It's tough. Victims of all technological disasters have incredibly hard times. As we noted in some previous discussions, you're not alone. People should not feel that they are cut off from others, and I would think a concerted effort on the part of people to respond to others' needs and to help others is a first step. But, essentially, we know that depression is a very treatable phenomenon, and maybe Dr. Arata could comment on that?

DR. ARATA: Yes, one of the things, as you mentioned, this isn't as easy as it sounds if you're truly very depressed. Some people can change their thoughts and can get active, but for some people who are experiencing depression, it's going to take more than that, and for those people it may be important to seek out some kind of professional help. Some of the options include seeing a psychologist or a counselor of some type who will work with you in different types of therapy to help the person learn to change their thinking, to recognize it, and even just to talk about the problems they're having, that just talking with a professional in a confidential setting can be different from talking to your friends about something. At the same time, there are medications available for treating depression. While many people aren't very comfortable with the idea of taking a medicine to affect the way they feel and behave, we don't really consider these drugs, as if in if you take them you're drug addict, but rather one of the things we know is that when people are depressed there are some changes that can occur in the chemistry of your brain. Sometimes you can make changes without taking medication, and a lot of times you can make changes without taking medication, but for some people they need that additional boost that the medicines can help to increase their energy to the level where they can do something. So, with the help of the medicine and sometimes therapy too, you can make the changes you need to deal with your depression.

*"This isn't as easy as it sounds if you're truly very depressed. Some people can change their thoughts and can get active, but for some people who are experiencing depression, it's going to take more than that, and for those people it may be important to seek out some kind of professional help."*

- Dr. Kati Arata

HOST: Dr. Welsh, would you like to add anything concerning treatment options?

DR. WELSH: I'm going to disagree a little bit with my colleagues here about how long it takes to change. One can change one's mind in about a half a second, but it may take a long time to lead up to that half a second, and as people are working toward change, a lot of times it can feel very frustrating, that I don't feel that I'm making much progress. But at some point that change

does take place, and when it does people can feel a real sense of relief and an optimism can sprout from that, that they can then go ahead and begin to get to feeling a lot better.

HOST: Well, Dr. Picou, would you wrap up today's topic for us and then set up the next program.

DR. PICO: Today, we've actually only addressed one of the types of psychological impacts of technological disasters. The fact of the matter is that the research clearly shows that technological disasters cause multiple impacts at the individual level, and here we're saying that we isolated the response of depression in the program today. However, we know that depression is also correlated with substance abuse, alcohol abuse, anxiety, there's elements of post-traumatic stress disorder that are characteristic of long-term, chronic impacts of technological disasters. So, essentially, future programs will attempt to isolate some of these psychological impacts, discuss what they are and present some information on how individuals and communities can better cope and respond to these negative impacts.

HOST: And with those interesting comments, we will close today's program. I'm your host, Ray Farnell, inviting you to join us again for Growing Together, a community education program sponsored by Cordova's own Sound Alternatives and the Family Resource Center. This program was developed in cooperation with the University of South Alabama, funding provided by the Prince William Sound Regional Citizens' Advisory Council. If you have questions or comments regarding this program, please stay tuned as most stations will carry a live call-in program dealing with technological disasters.

# Program Four Transcript: Anxiety and Post-Traumatic Stress Disorder

PRESENT:

RAY FARNELL, Host

DR. KATI ARATA, Assistant Professor of Psychology, University of South Alabama

DR. KENT WELSH, practicing psychologist, Mobile, Alabama

DR. J. STEVEN PICOU, Professor of Sociology, University of South Alabama

HOST: Today's program is the fourth in a series of five, 30-minute programs designed to provide information regarding technological disasters, their impacts, how we can better cope with such events, and what strategies communities can use to foster recovery. Today, we will focus on anxiety and post-traumatic stress disorder and how they impact victims of technological disasters. We will also address how people in affected communities can respond. To address this topic, we have with us two clinical psychologists: Dr. Kati Arata, Assistant Professor of Psychology at the University of South Alabama, and Dr. Kent Welsh, who has a practice in Mobile, Alabama. Also joining us is Dr. Steve Picou, Professor of Sociology at the University of South Alabama. Dr. Picou, give us an overview of our previous programs, and then tell us about today's focus.

DR. PICOU: The last program, we discussed technological disaster impacts, in particular the psychological impacts of these events. We focused on depression as an impact. We discussed some of the symptoms and characteristics of depression and provided some information as to how people can respond to this outcome of technological disasters. Today, we're going to focus on some additional psychological characteristics that result from technological disasters. As we noted in the last program, psychological impacts tend to cluster together. They're not single-type symptoms. In addition to depression which results from chronic stress, anxiety and post-traumatic stress disorder are two additional psychological impacts that we found for technological disasters, not only in Prince William Sound but in other communities, such as Love Canal, Three Mile Island, etcetera.

HOST: Dr. Arata, what is anxiety?

DR. ARATA: Anxiety is just worry, and as we talked about depression in the previous program, anxiety is also something that everybody does. Everybody worries from time to time, and that is not a problem. In fact, sometimes you ought to be worried about things, and so we'd be more worried if you weren't anxious and you weren't worried. The issue here is more when that worry or that anxiety, again, becomes all-consuming or begins to take over. We know that anxiety, just as a symptom, goes along with depression very often. That very often when people are depressed, they also worry a lot and are very anxious. But there are also a number of anxiety disorders where worrying is one of the main symptoms, but it causes a lot of other problems in the person's life.

*"Everybody worries from time to time, and that is not a problem... The issue here is more when that worry or that anxiety, again, becomes all-consuming or begins to take over."*

- Dr. Kati Arata

HOST: Dr. Welsh.

DR. WELSH: Well, I'd like to make a distinction here between worry and concern. There are many things that go on in a person's life about which one would be appropriate to be concerned. What's my next paycheck going to be? You know, how am I going to deal with my boss on the next promotion, and so? There are things about which I can be concerned. Worry, on the other hand, tends to be more repetitive and more problematic. Worry, really, is the process of going over and over and over the same thing without really coming to much of a resolution, without really coming up with a possibility, without coming up with a way to solve the problem. So, the distinction here between worry and concern is that worry is non-productive, whereas concern can be productive.

HOST: Dr. Arata, do you agree with Dr. Welsh concern anxiety?

DR. ARATA: Definitely, and like we said, there probably are a lot of concerns that are realistic for people, following the oil spill. Some of those concerns were short term, but many of those have been long term. So, for people to not be concerned would be surprising. Again, the problem is going to be for those people where that concern has gone out of control and turned into anxiety, where they have begun worrying about things that perhaps they don't need to worry about, or they have taken things that they have a problem with and they think about it a lot. They have trouble getting it out of their mind. They spend lots of time thinking about it over and over. And what we find is as people worry, one thing that can happen is in addition to just the discomfort of worrying, you also get a lot of physiological effects, that when you're worried about things your stomach knots up, your heart rate may increase, your blood pressure may increase. So, it really puts a stress on your body, and with that worry you can actually begin to develop physical problems that over time when you worry and worry and worry and you keep your body all revved up and worried all the time, you can begin to have physical complaints. Things like headaches, stomach aches, ulcers, and you can even exacerbate real physical problem that you might already have or may not have. So, you can – problems with heart disease, things such as that. We're not saying that worry causes heart disease, but if you worry a lot and you have that problem, those two things together don't make a good combination. So, the worry is bad on its own, but also can have some real physical effects on the person.

HOST: Dr. Picou, are there cases of anxiety in the Prince William Sound area?

DR. PICOU: Well, certainly, we know that technological disasters, and in particular the *Exxon Valdez* oil spill, generates a lot of uncertainty. Uncertainties regarding the nature and extent of contamination, what will be the long-term consequences, and these uncertainties are not necessarily, let us say, put to rest by experts and authorities. What we find in technological disasters is that the experts disagree. Some people say that was not enough radiation to hurt anyone; whereas, other experts say it was a significant amount and could be damaging. Some people say that the release of hydrocarbons into Prince William Sound did not significantly affect the ecosystem; others say it severely damaged the ecosystem. Regardless of what may be the accuracy of either of the two points, the uncertainty generated by the lack of a consensual agreement as to what happened certainly causes people to worry.

HOST: Dr. Arata, would it be correct to say that anxiety in itself is not bad.

DR. ARATA: Well, I think, as Dr. Welsh said, it's really the differentiating between anxiety and concern. That there may be some real reasons to be concerned about things, such as the atmosphere, but to the degree that it begins to consume you, consume your thoughts and even

interfere with your physical functioning and your psychological functioning, then it's turned into anxiety when it begins to control your life.

HOST: Dr. Welsh.

DR. WELSH: There's another face of anxiety here that I want to bring up, and that's the component of fear. Fear is – can be all-consuming to people and can be very unsettling and disruptive to a person's life, and oftentimes people will fear things over which they feel they have no control, and not knowing what's going to happen and not knowing if I can control it will lead to a higher degree of fear, will lead to a higher degree of anxiety. If I can tell a story here for a moment: Two hikers were walking through the woods and come to a clearing, and as they come in on one side of the clearing, a bear comes in on the other side. And one fellow drops to his knees, takes off his backpack and starts pulling out a pair of running shoes and putting them on. The other guy says, what are doing? You can't outrun that bear. The second guy says, I don't have to outrun the bear. I just have to outrun you. So, while the bear was something about which both of them could be afraid, the fellow with the running shoes had something he could do to cope with the fear, so that he wasn't experiencing as great a stress or wasn't experiencing as great an anxiety in that situation as the other guy who was going to be bear food.

HOST: Dr. Arata, let's focus now on post-traumatic stress disorder.

DR. ARATA: Post-traumatic stress disorder is a concept which kind of grew out of the Vietnam War. We found that a lot of the veterans coming back had problems with flashbacks, had problems – they'd be consumed with thinking about the things that had happened to them, and identified a characteristic pattern of symptoms which seems to be experienced by people following traumatic events. In particular, when you look at natural disasters, you find problems with post-traumatic stress disorder. One of the things that we expect is that when people are in situations where their life is being threatened, that very often they may develop symptoms of post-traumatic stress disorder. It's a little more difficult when we look technological disasters to know what to think about PTSD. While people's direct life may not have been threatened, they have experienced a traumatic event, and many, many people will experience a traumatic reaction that is very much like post-traumatic stress disorder. And so, while they may not actually have the disorder, they may have many of the symptoms. In particular, the kinds of things you see with PTSD is kind of a vacillation that people kind of alternate between, what we call avoidance symptoms and intrusion symptoms. The intrusion symptoms are things where they can't stop thinking about what's happened, kind of about anxiety or worry that we talked about. They worry about the event, they think about it, things remind them of it. Maybe they drive by an Exxon gas station and find themselves getting very angry and upset and having a real reaction to anything that reminds them of the oil spill. Well, what will often happen is that this intrusion is so upsetting that then they say, okay, I'm not going to think about it. I'm going to pretend like it never happened. I'm going to stick my head in the sand. And we call that avoidance. That's not dealing with it. That's just saying, okay, I'm not going to think about. And what seems to happen when people have these symptoms of PTSD is they kind of go back and forth. The more you try not to think about it, the harder it is not to think about it. So, you have these periods where it's consuming your mind and you can't stop thinking about, and so instead you decide I'm going to avoid it. I'm not going to turn on the television, I don't want to be around my friends because they all sit around and talk about it, and so we try to avoid it, and

the more you avoid it, the more it comes back.

HOST: Dr. Welsh.

DR. WELSH: Well, to kind of clarify a little bit about PTSD, as Dr. Arata mentioned, we usually think of it in terms of situations where someone has experienced a personal threat to their life, and one of the ideas about why that happens is that we have sort of a belief, humans have sort of a belief in ourselves, that we're going to continue to exist, that our lives are going to continue along for the next several minutes, that we're not going to cease to exist, so to speak. In a technological disaster like this, it's not our personal life that's being threatened, but our lifestyle that is threatened, and it's a change. We've talked about change here before, and this represents a dramatic change in our lifestyle that then from which we develop these symptoms that Dr. Arata described.

HOST: Dr. Picou, let's talk about post-traumatic stress disorder in light of a technological disaster.

DR. PICO: We're dealing with a post phenomenon – and that means something has occurred and it gives the impression that it's over. But, again, we're dealing with technological disasters, and this is something new and different and something that we know relatively little about. The key point here is that the post is post what? Is it post-oil? Is it post-litigation? Is it post continued litigation and no resolution of jury's decision? Is it post I-had-to-sell-my-boat? Is it post – you know, we could go and on. What we're dealing with technological disasters then are situations that generate a continuing post response, and the chronic nature of these events points to the importance of understanding traditional conceptions and treatments of PTSD to the somewhat new and different flavor, so to speak. New, in the sense that the post continues. The ability to recognize this pattern, I think, is a very important first step to responding to a continuing post-reaction to a series of negative events.

HOST: What are some of the signs of post-traumatic stress disorder? Dr. Arata.

DR. ARATA: Well, some of the signs we're going to look at are just signs that the anxiety is really consuming your life. Particularly with post-traumatic stress disorder, which you may find is what we call intrusive thoughts, that what happens is you find that your thoughts come into your head when you don't want them to, that bother you, worrying about things related, in this case perhaps, to the oil spill, that lots of things remind you of it, but not only that they remind you of the event, but that when you're reminded it's upsetting for you. Because we're all reminded all the time about different things, but it doesn't always make us as upset as if it were happening again. With anxiety, you get a lot of the same types of problems as you do with depression. You find yourself having difficulty sleeping. We've probably all had a restless night and laid there in bed and thought about everything you had to do the next day. Well, that's normal to happen occasionally. For the person who has developed a chronic pattern of worry, it may become an every night thing. Again, what happens with that, you also are going find that you may have problems concentrating. You can't focus your attention to work because too many things are running through your head. You may have problems with being constantly on edge that kind of have yourself in a heightened state of arousal so you may be more irritable, more angry. And, then, again, with that heightened arousal, you may find yourself feeling tense all the time. Your shoulders hurt, your neck hurts, you feel tired all the time. If you've ever had a time when you've been worried for a long time about something, maybe you had a relative in hospital and you had to do the vigil in the waiting room, it's exhausting to worry all day long,



and for the person who is chronically worrying, they're exhausting themselves.

HOST: Dr. Welsh.

DR. WELSH: Well, one of the things that happens with people sometimes is they, as Dr. Arata mentioned, is that they get into this state of hyper-arousal, that their bodies are all pumped up and keyed up, there's a little more adrenaline flowing through their system than normal, and for some individuals when this type of thing occurs they begin to have something that triggers a large response in their bodies, and their heart just feels like it's going to race out of their chest – that it's just thumping away at an unbelievable rate to their experience. They may have trouble breathing, they may feel like they're just going to explode, and this is an overpowering feeling of fear that these people experience, and it's extremely scary to the people. They really think they're going to die, or some think that something really bad is going to happen to them. They don't die.

People don't really die from this kind of disorder. But it's called a panic disorder. And it can happen in a variety of ways for people, and people can experience it in little bit different ways. One way is that people can experience this is maybe they're walking to the grocery store and they have one of these attacks for no apparent reason. They can't identify – you know, well, I know I'm not afraid of cornflakes, why am I suddenly having this attack? So, they don't know why it's happens, but it happens all of a sudden. So, they race out of the store, get in their car, and start to go home, and, wow, boy, that – I better get out of here, I need to really get away from this place because I'm so scared. Well, it will go away. It passes – naturally. They may not experience that for a while. Then some other day they may be driving along the street, the same thing happened again. Just, boom.

All of a sudden, out of the blue they get extremely scared, extremely agitated. Like I say, they're heart is racing along, and they begin again to think, boy, I'd better go home. I'd better get on home before something really bad happens to me. Well, again, this will pass. It goes away. But, gradually, as the person has a few of these episodes like this and they begin to process the thought -- I'd better get home because if this happens to me while I'm away from, you know, I don't know what I'll do, but I need to get home – well, an interesting thing begins to happens to those people, they begin to stop leaving home. They begin to stay within their houses and they develop another kind of disorder called agoraphobia, and that's one way that people can develop that disorder is through having panic attacks and sort of withdrawing into their houses so that they think that they're protecting themselves. In reality, they can get over these panic attacks. These are not something that they have to continue to suffer from. These are tremendously scary episodes, but they are things that people can get over. And sometimes, when you have incidents such as technological disaster like this, that gets people keyed up anyway, a few people will begin to develop these panic attacks, and it can be very, very scary and very uncomfortable for them, and one of the things I want to emphasize is that people can get over them.

HOST: How does the post-traumatic stress disorder affect people impacted by a technological disaster, such as those in the Prince William Sound community? Dr. Picou.

DR. PICOU: We certainly know that there are a lot of people who have worried a long time in these communities, and there are a lot of people who have been unable to resolve many of the painful feelings that they've had to deal with over the last seven years now. Now, given that, we have data that tends to indicate that people do have intrusive recollections and do try to avoid

reminders of the spill, and at the same time they may have trouble sleeping and they do respond angrily to reminders of it. Certainly, in order to make detailed clinical diagnosis you would have to have an army of researchers for any technological disaster, but we certainly have indications that there's a strong possibility that a significant minority is experiencing many of these same symptoms. I would add that an important characteristic of such symptoms reacting, you know, to an event in this manner, is that there are side effects that are correlated. For example, abusing alcohol or abusing other drugs, or even abusing those people that are very close to you is another very real possibility. But the communities impacted negatively by the *Exxon Valdez* oil spill certainly are characterized by uncertainty, worry, and collective stress.

HOST: Let's take a look at suggestions for managing this illness and treatment options. Dr. Arata.

DR. ARATA: Well, one of the things -- as far as the symptoms of PTSD -- one of the things we know from research with people who do have PTSD is that avoidance can be a real part of the problem. It turns out that if you're symptoms are like that, where you're having problems with the intrusive thoughts and the avoidance, that one of the best things for people to do is to talk about the things that are bothering them. That in our experience with the Vietnam vets, it turned out that support groups were very beneficial for them, when they were able to talk about the events that were bothering them in a supportive setting. The real hard part here is to differentiate between talking about things and venting about things and getting yourself upset. That it's important that that talking be in a way that helps to resolve the feelings, but more importantly here is the issue of dealing with the problem versus trying to stick your head in the sand and avoid the things that remind you of it. The more we avoid something, the more it bothers you, and so facing your fears seems to be one of the solutions for any kind of anxiety that's related to some particular thought or object.

HOST: What about people that find it hard to share their feelings with others? Some people would rather try to heal themselves.

DR. ARATA: That's definitely understandable. The problem here is that while that may have worked for them in the past, if they're having these types of problems it may show that it's not working for them. There are some things you can do on your own though. While talking about things seems to help, we also know that writing about things can help for people. That writing down your thoughts and feelings can be beneficial. Again, going back to the research on Vietnam vets, when you're dealing with a specific event it even works to talk about it into a tape recorder and listen to it over and over. While that may not really be applicable here, the point is that there is a difference, even if you're alone in the room, between thinking about something in your head and writing it down or talking about it out loud. So, it doesn't have to be a group of people. It can just be yourself that you're talking to.

HOST: Dr. Welsh.

DR. WELSH: The suggestions that Dr. Arata made are excellent ones, and those are ones that people can do either as individuals or collectively in groups. Another thing that people can do individually is to work directly on some of the symptoms of anxiety by learning to relax and learning to get the tension out of their bodies. What we typically do as we start to feel tense, we get used to having a particular level of tension in our bodies and then we tense up even more, and our bodies get used to that. Then we tense up even more and our bodies get used to that. So, it sort of builds over a period of time. But, as I intentionally begin to relax, as I intentionally

set about to let the tension out, that can go a long ways toward helping relieve symptoms of anxiety. Sometimes things like massage or a warm bath, just sitting down listening to some soothing music – you don't have to have, you know, some mystical meditative – meditational process to go through. You can just do it by sitting in a warm bath, but learning to relax is a really important thing to be able to learn to deal with some of these anxiety symptoms.

HOST: Dr. Picou.

DR. PICOU: Well, you can certainly make a list of things you like about yourself. It's been my experience in the last seven years in this community that the residents are the warmest, friendliest, most helping individuals I've ever had the pleasure to meet in my lifetime. So, essentially, sometimes this goes, let us say, not said and maybe overlooked by the local residents themselves. Certainly, think about and enjoy your positive assets and accomplishments. So, that would be one thing that I would add as important. And for those of us who have the opportunity to enjoy the beautiful scenery around the community, pamper yourself. I mean, a drive down the road can be invigorating, can be fun with the family, having picnics, trying to take advantage of things. Certainly, doing things in family groups would be very helpful, and I know that in this community there are many, many strong families and there are strong family ties. So, these are kind of positive things that already exist that people in the community can build on.

HOST: Dr. Arata.

DR. ARATA: I think maybe a final thing would have to do with dealing again with the thoughts as we talked about with depression. That obviously with anxiety and worry, a big part of it is your thoughts. That your thoughts are making you worry about things, and particularly, as Dr. Welsh talked about, when you're contrasting anxiety versus concerns. Concerns is when you have a problem and you can take an approach to dealing with it. Anxiety and worry are when you're obsessing over things and thinking about the worst possible thing that can happen. One of the things people can do to deal with that is to work on noticing these thoughts in their head and in some ways talking yourself out of it, talking to yourself about, well, is it really that terrible. You know, I feel like financially everything is horrible and just sitting there and worrying about it, but rather, stopping yourself and saying, okay, slow down, calm down, what's the real problem? What can I do about it? And when you catch yourself having irrational worries or worrying about things excessively, stopping yourself. You know, if you are having financial problems, of course, that's a concern, but worrying about it all day long isn't putting money in the bank. And so, when you catch yourself with those kinds of thoughts, working on stopping those thoughts, distracting yourself, either doing something that will work towards solving the problem or putting the thought away until you can do something about it.

HOST: Dr. Welsh, does it help people to get involved with a church group or other community organization?

DR. WELSH: Yeah, I think anything like that than an individual can do to re-identify with an ongoing group, such as church group or a civic group or any place where I can reconnect with people, is going to really important at this time.

HOST: Well, Dr. Picou, would you wrap up today's topic for us and then set up the next program.

DR. PICOU: Today, we discussed some of the long-term impacts of technological disasters,

particularly anxiety and post-traumatic stress disorder. Certainly, in the previous program when we discussed depression, we want people to think about these things as kind of clustering together. The next program we will look a little more at behavioral changes, specifically alcohol abuse, substance abuse and the expression of anger in chronic, stressful situations. Certainly, technological disasters can be summed up as a chronic, stressful situation.

HOST: And with those interesting comments, we will close today's program. I'm your host, Ray Farnell, inviting you to join us again for Growing Together, a community education program sponsored by Cordova's own Sound Alternatives and the Family Resource Center. This program was developed in cooperation with the University of South Alabama, funding provided by the Prince William Sound Regional Citizens' Advisory Council. If you have questions or comments regarding this program, please stay tuned as most stations will carry a live call-in program dealing with technological disasters.

# Program Five Transcript: Substance Abuse and Anger

PRESENT:

RAY FARNELL, Host

DR. KATI ARATA, Assistant Professor of Psychology, University of South Alabama

DR. KENT WELSH, practicing psychologist, Mobile, Alabama

DR. J. STEVEN PICOU, Professor of Sociology, University of South Alabama

HOST: Today's program is the final installment in a series of programs designed to provide information regarding technological disasters, their impacts, how we can better cope with such events, and what strategies communities can use to foster recovery. Today, we will focus on substance abuse and anger and how they impact victims of technological disasters. We will also address how people in affected communities can respond. To address this topic, we have with us today two clinical psychologists: Dr. Kati Arata, Assistant Professor of Psychology at the University of South Alabama, and Dr. Kent Welsh, who has a practice in Mobile, Alabama. Also joining us is Dr. Steve Picou, Professor of Sociology at the University of South Alabama. Dr. Picou, give us an overview of our previous programs, and then tell us about today's focus.

DR. PICOU: The last program, we essentially discussed several individual reactions to technological disasters. The two reactions that we focused on in the last program was anxiety and post-traumatic stress disorder. So far, we've only considered what we might call mental or cognitive reactions. In today's program, we're going to briefly address some behaviors that reflect long-term negative impact from technological disasters. Now, once again, these behaviors may be in a society – in a community – not impacted by a technological disaster, but nonetheless the behaviors we're going to talk about today become a little excessive in these long-term stressful situations.

HOST: Dr. Arata.

DR. ARATA: Well, as Dr. Picou said, substance abuse is certainly a problem that affects a lot of communities and it's a big problem in society today. One of the things we know about substance abuse, particularly alcohol since that's usually the most commonly abused substance, is that stress can often lead to an increased use – that many people deal with stress by having a drink, and on an occasional basis that may not be a problem, but what we do know is that alcohol abuse is a major problem in our country. As many as one out of ten people may abuse alcohol in one year, and we know that alcohol abuse is the leading cause of physical problems that result in hospitalization. It's also a factor in many crimes that are committed. That very often when people are under the influence of substances such as alcohol, they may be more likely to become aggressive or violent.

At the same time, alcohol can be a factor in increasing other types of symptoms, such as the ones we've talked about, such as depression and anxiety. They all kind of work together. That people who are depressed or anxious may choose alcohol or some other substance to help them deal with that problem. It's sort of an avoidance. It makes you forget about it. But then the substance you use may actually increase those symptoms, so you get into a circle where you're making yourself feel worse and worse. The worse you feel, the more you want to avoid it and not think about it. The more you avoid it and not think about, the worse you feel.

HOST: Dr. Welsh.

DR. WELSH: Well, I think there are a couple of ways that people use alcohol in particular. A lot of times folks who are experiencing stress, depression, and so on, will use alcohol as a medicine, and cultures have been doing that kind of thing for a long, long time, and, as with any kind of medicine if you take the right amount, you do okay. If you take too much medicine, then you can have problems with that. It can lead to difficulties with things that are going on with you. So, I think that that may be one of the areas where people are experiencing difficulties, where they use the alcohol or the substance as a medicine, but then they more or less overdose themselves on it and wind up then having behavioral problems as a result.

HOST: Dr. Picou, let's talk about substance abuse in light of a technological disaster.

DR. PICOU: What we're focusing on here is the reaction -- and oftentimes these reactions are very normal -- reactions of individuals to exceedingly stressful situations that persist for a very long period of time. Now, given this situation, we find that people will oftentimes try to numb their problems, and certainly an overuse of alcohol seems to be a strategy for many in trying to reach this sense of being numb. But, I think that the important point that we have to understand here, it's not just the pattern of drinking that we're talking about or substance abuse that we're talking about, but it's actually the word abuse that needs to be focused on. When a situation arises that's stressful, people abuse alcohol, particularly isolating themselves and abusing alcohol.

We're creating the situation where they're dysfunctional, and we know from past studies of technological disasters that we need to try to break the pattern in corrosive community. Certainly, we've discussed in this series of programs social isolation, we've discussed depression, we've discussed anxiety and worry, and we've discussed a variety of post-traumatic stress responses. As we mentioned before, alcohol abuse and other substance abuse clusters in our behaviors that are associated with these very normal responses to extremely traumatic events.

HOST: Dr. Arata, how can you tell if you're a substance abuser?

DR. ARATA: Well, one of the things you want to look at is whether or not you have a kind of a pattern of increased use. Is it something that's becoming an everyday thing for you, and maybe not only an everyday thing, but that you're using the substance in very large amounts every day? Some of the signs that it's becoming too much may be when you begin to hide it from people. You kind of recognize that maybe you don't want everybody to know how much you're drinking, so you don't really tell them how much you've had. You might find yourself using the substance throughout the day, where before you might have a drink in the evening. Now it seems like lunch is a good time to start, or even in the morning to kind of get you going. A real concern is when you're using a substance in a situation that can be dangerous. When you're driving or if you're working in a situation where you're operating heavy machinery or something, it can be very dangerous to be using some kinds of substances, and at the same time when your substance use begins to interfere with your work and your social life.

HOST: Dr. Welsh.

DR. WELSH: When it starts to get you in trouble, that's when it's becoming abusive. Now, that may mean that it's just a couple of beers or it may mean a couple of six packs, but when it gets me in trouble, that's when it's an abusive intake.

HOST: What are the physical signs of a substance abuser? Dr. Arata.

DR. ARATA: Well, certainly, with alcohol, for a very heavy user, there can be some real physical signs. Many people have had a hangover before and would kind of realize that a hangover is actually an alcohol withdrawal syndrome. For someone who is drinking very heavily, when they stop drinking, they may have actual signs of withdrawal that are more extreme. They may find that in the mornings when they wake up, their hands are shaking, and they really can't get going until they have some alcohol. Again, increased depression and anxiety can also be a consequence of heavy substance use, kind of a withdrawal syndrome that you go through. And, again, as with the hangover many people may have had, the thing that makes you feel better is to have some more of it. But you're just exacerbating the problem.

HOST: Dr. Welsh.

DR. WELSH: Well, again, some of the physical indicators, as Dr. Arata mentioned, can be tremor, shakiness, feeling depressed, as she indicated. All of those are physical and sort of psychological indicators that the substance is taking more control of me than I am of controlling it.

HOST: Let's talk about treatment options for substance abuse. Dr. Arata.

DR. ARATA: Well, I think with substance abuse, like many problems we've talked about, for many people they're able to stop it on their own. But not always. But the first thing, of course, is recognizing the problem, and if you can recognize the problem in yourself, that's certainly a very big, positive step, if you can see that it's your own problem and kind of accepting that. A real common approach is to join a support group. Most people have heard of Alcoholics Anonymous, and these are self-help groups which are designed to kind of help the person in stopping. Probably a big part of stopping would be to replace drinking or whatever the substance is with other activities, to find other ways of releasing stress, to find other ways of socializing with people, rather than using the substance. A real problem can be avoiding situations where the main focus is on drinking or substance use. It's very hard if you're a bartender to not – well, maybe not a bartender, but if you work in a bar or hang out in bar, not to have a drink. So, it may be a matter of putting yourself in other types of situations where the main focus isn't alcohol.

HOST: Dr. Welsh.

DR. WELSH: I guess I want to come back to the idea of staying out of trouble. That if I am going to have something to drink, that's okay, but I need to be aware that there are consequences to my drinking, and that when I drink to the extent that I start to get myself in trouble, then I need to start cutting back on that. I'm not saying necessarily that what I have to shoot for is abstinence, but I need to cut back to the point that I'm not getting myself in trouble anymore, and I think that's an important thing for folks to realize.

HOST: Well, so far in this program, we've dealt with substance abuse and how it impacts victims of technological disasters. Let's focus now on anger. Dr. Picou, is there a lot of anger among members of communities where technological disasters have occurred?

DR. PICOU: Oh, definitely. In fact, what we know from twenty years of studying these events is that when things don't seem to work out or make sense, people become frustrated. A very normal and healthy emotional response is anger. You know, some people will yell and swear.

Others may suppress their anger, may try to make out it's not there. Others may have a very compulsive, constant concern about something, and an event totally unrelated to the source of the anger may elicit a tremendous angry response on the part of an individual. Technological disasters make people mad. They shouldn't have happened. It was someone else's responsibility. I put my trust into that someone else and look where it got me. You're darn right I'm mad. A very, very important component of the technological disaster pattern we've repeated over and over is the chronic nature of the pattern. If a person stays angry for seven years, I would submit that their physical well-being, the well-being of their family and their own emotional well-being would be totally shot. It's just very hard to do.

Even though the anger is justified, and even though one has a right to be angry, we must become aware of the fact that persistent anger can only change the self and hurt others around us.

HOST: Dr. Arata, what are some signs of anger?

DR. ARATA: Well, I think the thing is anger is, as you say, is really a natural emotion, and there's really nothing wrong with being angry. Many situations are going to make you feel angry. The real issue is going to be how you deal with your anger. There's healthy ways to deal with anger and there's unhealthy ways to deal with it, and obviously it's going to be the more unhealthy ones we're going to be looking at – constantly blowing up, becoming physically aggressive. Again, anger may even feed into the substance abuse, and substance abuse will feed into anger. As people are using these kinds of ways of dealing with anger, one thing we often see is that often people will displace their anger. We all start off angry with a common enemy, but then you wind up you can't do anything about that, and so you displace that anger on the people around you. You know, kind of the old -- you're angry at your boss, you come home, and you get angry at your wife, you get angry at your kids. They're people you can be angry at. There's something you can do about that. There's nothing you can do, perhaps, about changes in the environment. So, what happens is we take the anger out on other people and we may take that anger out in bad ways.

HOST: Do you find that community members have sometimes been angry for so long that they might even forget why they're angry, but because the anger has been such a part of their environment, they tend to feed on the anger.

DR. ARATA: I think the part – feeding on it is certainly part of it. You know, if somebody is angry at me, I may not have been angry at them, but now that they're angry at me, well, now I'm angry at you, and we start doing things to each other to make that anger increase. That's happens in relationships, it happens with neighbors, it happens at jobs. As people get angry, they say things that are hurtful, they yell, they scream, and the natural response is to yell and scream back.

HOST: So, it's like that cycle you talked about earlier.

DR. ARATA: And then by the time it's all done, people do have reasons to be angry at each other, because of the things that have resulted from that original misplaced anger.

HOST: Dr. Welsh.

DR. WELSH: I'd like to distinguish here between anger and aggression. Anger is the emotional that we've been talking about here, and that's the natural feeling that people have when they



experience frustration, when they experience certain kinds of threats. Aggression, on the other hand, is a behavior, and that's the fighting, that's the yelling, the screaming, the punching, the whatever – okay. So, one of the ways of more appropriately handling things is to understand the target of my anger. That if I'm angry because the environment is messed up, well, at whom am I angry? Am I angry at my wife about that? Am I angry at my kids about that? No, I'm not angry at them about that, they didn't do that. I'm angry over here at something else. That's where the anger is more appropriately directed. Aggression, on the other hand, is not appropriate toward my spouse, toward my kids, toward my neighbor, toward whatever. So, being able to make that distinction and focus my anger in the appropriate direction, I think is an important point here.

HOST: Dr. Arata, touch on some of the consequences of anger.

DR. ARATA: Well, I think, as we talked about with substance abuse, the problem you're looking at here is when it begins to get you in trouble. Particularly with aggression, what's happening is you're expressing that anger outwardly. You may be hurting people. Clearly, when you begin to hurt people, there can be real consequences to that behavior. While they may not always be legal consequences, there are certain consequences in your relationships, occupational consequences, and even physical consequences. We know, going back to the heart disease again and other stress-related illnesses, anger seems to be a big part of what kind of increases heart disease. The personality profile that goes along with it that staying angry and constantly being angry has physical effects on your body, much like other kinds of stress.

HOST: Dr. Welsh.

DR. WELSH: Yes, the idea of being able to, as I said earlier, focus your anger on – in a more appropriate way – on the appropriate target and displace aggression or reduce the level of aggression that we exhibit toward other people, because all that does is interfere with relationships and so on.

HOST: Yes. Dr. Picou.

DR. PICOU: What I'd like to comment on would be the synergistic effect of many of the things that we've discussed over the last four days. In particular, anger combined with alcohol, combined with depression and linked to persistent worry and fears, certainly is going to have a debilitating effect on the individual, the individual this person interacts with, as well as the immediate family and friends. So, being aware that technological disasters generate these clusters of symptoms, and then once these symptoms interact, so to speak, together, they can really become out of control and a serious problem for individuals, families, and certainly communities. I think that we need to think very carefully about managing and responding to these symptoms.

We certainly haven't covered them all in this series. There are others. But the patterns that we've discussed are very real, we know that they've existed for other technological disasters, and that characteristically the *Exxon Valdez* oil spill also had similarly negative impacts on many communities and individuals in these communities. I think people need to respond individually and collectively, and certainly with regard to handling anger, if we look at situations differently, if we force ourselves to try to stop and think, what am I angry about, and what's a positive response and expression from this anger, we'd be better off. Certainly, express how you feel and why.

That's important. And I would think the general notion – calm down – and to try to not lose control and to try to do things that you've done before that can have positive consequences.

HOST: Dr. Arata, would you care to add to those suggestions?

DR. ARATA: I think those are all good suggestions, particularly the idea of calming down. One thing with small children, we often make them take a timeout, but as adults we don't always do that ourselves, and for many people it can be important to not face something right when it happens. When you're really angry, you need to take a timeout. What's real important here though, is that it is not a complete timeout. One pattern you see is that some people tend to hold everything in until they blow up, and so if you don't go back to the problem after you've taken your timeout, it may just be staying inside of you and festering. So, it's important for people to talk about the things that are making them angry, but to talk about it when they're calm, and, as he said, to look for something positive that you might be able to do to help deal with your anger.

HOST: Dr. Welsh, what about getting involved with local agencies or community groups to help manage anger?

DR. WELSH: I think that can be helpful, for people to have an opportunity to ventilate their feelings in an appropriate forum and being able to express the things that are going on inside of them in a way that they can kind of release some of those feelings of anger. Just release, however, isn't sufficient. It also is important for the person to feel a sense of resolution or that something is happening, some closure is occurring. Now, it's not necessarily that there's closure occurring on whatever the event was, but closure occurring on my feelings. To reiterate something that both Dr. Picou and Dr. Arata mentioned, and that's delay – waiting, holding off and not exploding immediately. And a comment that was attributed to Mark Twain, he apparently some time or another said if you get angry, count to ten, and if you're still angry, count to a hundred, and if you're still angry, cuss.

HOST: Dr. Picou.

DR. PICO: You must remember that if you're feeling angry or depressed or any of the symptoms that we've discussed in this series, others probably are having the same feelings too. Certainly, it's important for people to try to help others. Talk and listen and maybe other people can be a source of support and benefit to you also. Also remember that venting can be very problematic, in the sense that you may say things in the heat of your anger or emotion that may hurt other people around you too, I would say sensitive to giving voice to how you feel in a manner that is sensitive to others would also be important. Also, in order to respond to technological disasters, I think communities have to make a collective effort to become aware and then respond to this problem. There are local people in all communities who are very interested in others. The mental health professional community in Cordova, the people who work at Sound Alternatives, the Family Resource Center, local clergy, other natural healers and providers are there. It may be a very wise and strategic plan if one feels they may be abusing alcohol, angry too long, suffering from problems and emotional responses that may be getting a little out of hand, that they seek out these people and talk to them. It certainly would be of benefit to someone who is experiencing these symptoms to have others respond to them and have them be able to respond to others.

HOST: Dr. Arata.

DR. ARATA: Another important thing that people can do to help themselves is to read books. There's lots of excellent resources now available on all of these things we've talked about. Books that deal with dealing with anger, books on dealing with depression and anxiety, and all of these books will cover many of the things that we've talked about and often give little strategies people can use to try to work on changing their feelings.

HOST: Dr. Picou.

DR. PICOU: If anyone is interested in securing a bibliography of references that reflect the topics that were discussed in this series, they are available from Sound Alternatives. Simply give them a call and – or drop them a line – and make a request, and we'll see that the references and bibliography is sent to you.

HOST: Any closing remarks from either Dr. Welsh or Dr. Arata?

DR. ARATA: Well, I think maybe the thing to add to all this is that, while there may be some aspects to what's happened that you can't change, what you need to focus on is on the things that you can change. Work on changing those feelings that are unpleasant and changing behaviors that are causing you problems.

HOST: Dr. Welsh.

DR. WELSH: When it seems like I have no control over anything else in my life, the one thing over which I do have some degree of control is that which goes on from my skin in. I may not control anything from my skin out, but from my skin in, I potentially have control over that, and that includes my feelings and my thoughts.

HOST: And, finally, Dr. Picou.

DR. PICOU: The first step in understanding that you have a problem to do something about is becoming aware of that problem. This series of programs has attempted, in a very brief and general way, to look at technological disasters, their impacts and how people and communities can respond to them. We focused on the *Exxon Valdez* oil spill as a source of collective stress and trauma for people in communities in Prince William Sound, but the issue really is bigger than any one technological accident. The issue is that technological disasters are a phenomenon of our new century, they're a phenomenon of the future. We need to have a good understanding, an educated understanding of these events. We need to know what happens to people, and then we need to attempt to respond to it in a positive manner. And I think and hope that the information and the people that have participated in this program will be of benefit to the listeners.

HOST: And with those interesting comments, we will close this program and end this series. I'm your host, Ray Farnell. Thanks for joining us for Growing Together, a community education program sponsored by Cordova's own Sound Alternatives and the Family Resource Center. This program was developed in cooperation with the University of South Alabama, funding provided by the Prince William Sound Regional Citizens' Advisory Council. If you have questions or comments regarding this program, please stay tuned as most stations will carry a live call-in program dealing with technological disasters.