Level Up Audio Project, Season 2

Episode 4: Behavioral Science and Flood Risk Mitigation

Voice Over: Welcome to Level Up, a FEMA audio project for practitioners where communities share their stories and expertise about building resilience and reducing risk from a disaster. Talking about flood risk is hard. Understanding the facts and figures behind flood risk, sea-level rise, and how they affect our daily lives can be even harder. People are often averse to believing they're at risk to natural hazards and the impacts of climate change, and relying on data and numbers is not enough to change their minds. Comprehending how our brains receive and process information helps us understand how people perceive their own risks and what motivates their behavior. This knowledge is invaluable as practitioners shape their approaches to encourage action and create more resilient communities. In this podcast episode, we dive into the story of Gladys, a decades-long homeowner along the coast of Dash Point, Washington. While she has lived through multiple severe storms and her home has flooded over and over again, her love for her home and community keeps her rooted firmly in place. While we may not understand Gladys' reasons for staying, emotionally, a different story is being told. Our interviewer, Emily Breen, a community planner with FEMA Region 9, will discuss Gladys' story with Cara Spidle, a communications and behavioral science specialist with FEMA's current Community Engagement and Risk Communication provider, *Resilience Action Partners*. Cara will walk us through the behavioral biases and insights from Gladys' story, discuss why her beliefs are so deeply set, and what, if anything, could be done to change her mind.

Gladys: You know, when people talk floods, I'm thinking East Coast, where you have cars floating down and things like that. I thought, "It's no, we couldn't have anything like that." And once we were here, you learn real quick. It can be exciting, it can be terrifying at times.

Emily Breen: In the clip we just listened to, it sounds like Gladys didn't believe something like what she experienced could ever happen to her. Is this disbelief an example of a behavioral bias?

Cara Spidle: Yes. In fact, it's actually an example of two that I can think of right off the bat. The first being availability. Availability is how easily we can recall something happening through our lived experiences, through where we actually physically live, through the media and other information that we consume, it all factors into what we think of most readily when we're thinking of an event. So for Gladys, before she moved here, she wasn't familiar with flooding. It seems like it wasn't something that she necessarily experienced herself, it was something that happened to other people in other places. And when you can't recall

something happening or have personal experience or enough of a learned experience in order to recall that easily, you become detached from that issue. It's far harder for you to relate to and think of something as immediate or pressing or something that you should spend your very limited time and resources on focusing about. Another bias that's here is optimism bias. Optimism bias is the overestimating of our chances that something bad would happen to someone else but never to us. So in the case of Gladys, it's optimism bias. "Oh, it happens on the East Coast. It happens elsewhere. I'll be fine" is a prime example of optimism bias and how people just don't think that things will happen to them.

Emily Breen: Are there tips for how to work with people that have this bias to encourage them to make mitigation action?

Cara Spidle: There are some tips for how you can work with people who share similar viewpoints as Gladys. One of the things that you can do is to bring the risk into the present, to bring it into something immediate, personal, pressing, make it part of their world, their present moment. This can be having conversations about personal lived experiences, it could be recounting your own tales of what you've been through, but it's how you make the risk present in something that happens in Gladys' community and Gladys' home, and Gladys' backyard. So it's important that if you do start to make the risk more present, that you can look to messengers within that community who can share that more personal story who are a more respected messenger within that community and really have lived the experience, which gives a lens of authenticity to that message that makes it even more powerful.

Gladys: I think we built it probably at least two feet higher than the old house thinking we'd never get water in the house that high. But the waves were coming up and they were all the way to the edge of the sliding doors, and that's when I started getting towels because the water was coming in. Not because it was that high but because of the wave action.

Emily Breen: So in this clip, it sounds like a lot us took some structural actions to deal with potential flooding, but it wasn't enough. What sort of behavioral bias is demonstrated here?

Cara Spidle: So this clip from Gladys is really interesting in the fact that she did take action. And because of this, Gladys is really susceptible to confirmation bias. Confirmation bias is this really powerful thing where our brains actively seek out information that reinforces our previously held beliefs, even if those beliefs aren't true. And it's to the point where if we encounter information that's contrary to those beliefs, it causes physical pain in the brain, which is called the backfire effect. When you are challenged, when one of your core beliefs that's very central to your identity, which the case of Gladys and many homeowners is their home, when that belief is challenged so intrinsically, it causes pain to happen in the brain. The research is that when people encounter this contrary information, they actually double down even more firmly on their previous

beliefs. So while it's amazing that Gladys took action, that she raised her home two feet, there's a new level of normal now, she thinks that she's done enough, that she's okay, that she's safe. So the information that she's operating off of is being challenged directly by risk because risk changes. Another bias is also present, but kind of less powerful in its extent, is status quo bias. And this is something that you see pretty often in this field, looking at changing behaviors in general, but specifically when it comes to flood mitigation. And status quo bias is the fact that it's far easier for us to keep on with our current pattern of behaviors and what we do than to change even if that change would make it better for us. This is why there's millions of dollars worth of industries to help people to change their routines to work out more, and incredibly hard for us to do. And Gladys already did this. She did the hard part, she changed her norm, she changed her home. So now that this new status quo that she's developed, this new way of operating is being challenged, it's even harder for her to want to overcome it.

Emily Breen: Wow, thanks Cara, for breaking that down, also sheds some light on my own behaviors. So any other suggestions you have for practitioners working with communities to encourage them to take action that will make them more resilient to flood hazards?

Cara Spidle: So some things that practitioners can do in order to better connect with communities and encourage them towards action is personalization. Risk is personal and we make decisions based off of personal, emotional things. And so showing that you have an understanding of the history of what that community has gone through, there's an understanding and a kind of a human-to-human connection can be a really powerful convener. What else is also helpful is looking at this idea of concreteness. We respond better to things that we can visually paint into our brains. So being as concrete and explicit as possible when describing something is also really helpful to help people to realize their risk. And it could be as simple as instead of saying, "Oh, with these new maps there's three feet of inundation in this area," it could be relating that to three feet of floodwater within a grocery store means that the produce starts to get wet. It could be something of if there's a ballpark where the kids' little leagues play during the season, that their fields are under underwater if a minor event happens. It's how you relate that risk to that specific community and then paint a picture that they can vividly see because makes it a lot harder for them to deny that something is actually happening.

Gladys: If we know there's a storm coming we will get more sandbags and it really does help. If you have enough sandbags, you're good for the storm. And that's about the best way. But we talked about, gee, could remake a gate, a gate that we could have beside the house that we could just swing it shut in an emergency, but it would be so difficult with the way the sidewalk is. It could be done but it would be very, very expensive and bulky and imposing and sandbags are a lot easier.

Emily Breen: So Gladys takes preparedness actions when storms are coming, which is really good, but they are temporary. Considering her persistent flooding issues and her reluctance to take on a bigger, more costly solution, what is her thinking in this clip demonstrate?

Cara Spidle: Gladys is demonstrating status quo bias. While her status quo is a lot higher level of action that she's taking than compared to, arguably, other people within her community, or even comparatively across the country, it's still a status quo. She has some thoughts of what she could do to improve things but she's not quite convinced at the effort. And this convincing of effort also plays into the idea of self-efficacy. While it's not necessarily a cognitive bias or how our brain is wired, self-efficacy is a really powerful component of how we ultimately drive people towards taking action. People may understand that they're at risk, they may visibly see the risk and believe that, "oh, I should probably do something about this," but if they don't feel confident and capable and that they themselves can take action to do something, then they won't. Even though everything that they see and they agree with the evidence and know that the risk is there, if they don't believe that they can make something happen, like in the case of Gladys where the sidewalk is just kind of weird, it's just strange enough that she can't just buy a standard, pre-made flood gates, she'd have to get something custom, that enough is a hurdle that can keep people from action.

Emily Breen: So what recommendations might a community official be able to make to help Gladys take more permanent mitigation action, like a flood gate?

Cara Spidle: So for community officials that are looking to take action that's a bit more permanent or to encourage individuals and within their community to take action, I really recommend this tactic called chunking. And it's similar to that kind of funny story that we heard as kids where you try to figure out how you would eat an elephant. And you can't eat an elephant in one go, you have to eat it bite-by-bite. That's what chunking is, it's taking a larger, more complicated set of actions and breaking it down into smaller, more manageable ones. Especially for individuals who may have less of an awareness and understanding of their risk, it's a way you can slowly build them up and to their belief and help to build that self-efficacy that's so vital for action. Chunking could be something as simple as encouraging a homeowner to place their important documents on a higher level or area of their homes.

Emily Breen: So what other motivating factors are worth considering?

Cara Spidle: Loss avoidance is a really powerful thing, especially when it comes to disasters and flooding. We go out of our way in order to avoid losing something that we already have at twice the rate that we would to go out of our way to gain something. So this is the same with our homes and our possessions and our way of life. The threat of losing that stability, of losing our routines, of not being able to go to work, to go to school, to operate how we normally do can be a really powerful motivator. And what's also really important to note here is that status

quo bias goes both ways. It's not only the individuals that we're working with that are susceptible to cognitive biases but it's us as well. So while we're focused on the communities that we're serving, we also kind of need to check in with ourselves and think about how we're showing up. Are we the right messenger? Are we approaching this in a considerate, authentic way? And I think that's almost just as important as rethinking how we outreach and engage with communities, but it's much more difficult. We're humans dealing with other humans, that sincerity and authenticity goes such a long way in helping to build trust, to properly convey information, and to help people to want to hear you and not automatically tap into that confirmation bias and just shut out opposing information or to not listen to a messenger that they may not know or respect.

Emily Breen: So could you talk a little bit about timing?

Cara Spidle: Timing is really important when you look at how to meet people where they are with messages that they'll resonate with. Obviously, it's much more difficult to convince people that flooding is a reality when the sky is blue and the sun's out and there's not a rain cloud in sight. And when a disaster does strike, depending on the severity of the impact, you have a brief window of opportunity and people are more willing to take action, to learn more, to be more engaged, to believe that the risk is real because it just happened. Though after this period of time, after about the two to six-month period, you can run into what's called disaster fatigue, where so many things happen or it's been long enough after disaster that you've reverted back to your normal way of doing things.

Emily Breen: These are really fascinating insights into the human mind and human behavior. Thanks so much for shedding light today and for these helpful tips as we work with community members in the future.

Cara Spidle: Thank you so much for having me on and letting me have the opportunity to dive into the world of flood risk and resilience in our brains.

Voice Over: As we've learned, humans aren't always the rational actors we assume ourselves to be. Understanding how our minds work can ultimately help us forge stronger connections and inspire residents to mitigate their flood risk. Though we focused on Gladys' as experience here, her actions reflect the behaviors and biases common to us all. Thank you, Gladys, for sharing your story with us.

Voice Over: To learn more about the topics and programs mentioned in this episode, check out the show notes. This episode of Level Up was produced by FEMA Region 9's Mitigation Division and *Resilience Action Partners*. It was made available to you through a partnership with the Georgetown Climate Center. The Georgetown Climate Center serves as a resource to state and local governments working to cut carbon pollution and adapt to climate change impacts. We thank them for helping to strengthen our community of hazard mitigation and climate adaptation professionals. For additional information and to access the Climate

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