

**Demetri Kofinas:** 00:00:09 What's up, everybody? Welcome to this week's episode of Hidden Forces with me, Demetri Kofinas. Today I speak with Annie Duke, who was, for two decades, during her professional run, one of the top poker players in the world. In 2004, Annie bested a field of 234 players to win her first World Series of Poker bracelet. The same year, she triumphed in the \$2 million winner-take-all, invitation-only World Series of Poker Tournament of Champions. In 2010, she won the prestigious NBC National Heads-Up Poker Championship.

**Demetri Kofinas:** 00:00:44 Annie has drawn in her undergraduate and graduate work in Behavioral and Cognitive Psychology and her experience in professional poker to advise and consult companies and organizations that want to improve their decision-making. She's also the author of the 2018 book Thinking in Bets: Making Smarter Decisions When You Don't Have All the Facts. Annie, welcome to Hidden Forces.

**Annie Duke:** 00:01:07 Thanks for having me.

**Demetri Kofinas:** 00:01:08 How are you doing?

**Annie Duke:** 00:01:09 I'm good. I'm good.

**Demetri Kofinas:** 00:01:11 You said you were coming into town. You just got into New York City?

**Annie Duke:** 00:01:14 Yes, I did. I have my suitcase with me.

**Demetri Kofinas:** 00:01:16 How long are you going to be in town for?

**Annie Duke:** 00:01:17 Just until tomorrow night. I'm combining this with a few other things. I'm up here quite a bit, obviously, it's close.

**Demetri Kofinas:** 00:01:24 How do you like New York?

**Annie Duke:** 00:01:26 Well, I went to Columbia.

**Demetri Kofinas:** 00:01:26 That's right. You went to Columbia for your master's.

**Annie Duke:** 00:01:30 No, I went to Penn for my-

**Demetri Kofinas:** 00:01:32 You went to Penn for your master's.

**Annie Duke:** 00:01:32 Yeah, I went to Columbia for my undergrad, and totally loved it. Never thought I would leave New York City. In fact, when I applied to graduate school, I only applied to two places. I

applied to Columbia because I wanted to stay. Then my mentor at Columbia was really encouraging me to apply to Penn where her mentors were, Lila and Henry Gleitman. I reluctantly followed her advice, her name was Barbara Landau, and applied to Penn. When I came down and visited, I completely fell in love with the program and ended up moving to Philadelphia at that point. But when I lived in New York, if you had asked me, I would have said I would never ever leave.

- Demetri Kofinas:** 00:02:12 That's really interesting.
- Annie Duke:** 00:02:13 I love it here.
- Demetri Kofinas:** 00:02:13 Do you feel like you need to be smart to be successful in poker, because you don't need to be smart to be successful in life? You said poker is like life in your book.
- Annie Duke:** 00:02:24 Yeah. I think that it's like a lot of things. I think that things can be very domain-specific. Well, I think it's two things. Do you have to be able to execute certain things in poker really well? Yes. If that's your definition of smart, then I suppose you have to be smart to do that. That doesn't necessarily mean that those are going to transfer to other domains, number one.
- Annie Duke:** 00:02:45 Then also, number two, is that I think that sometimes people can be really good at poker because they've come up with certain strategy and certain tactics that work really, really well in whatever form of poker they're playing. It's interesting because with some of those people who were great, if you put them in a different form of poker, because there's lots of different forms of poker, they don't do so well. Even within poker, sometimes the skills don't transfer.
- Annie Duke:** 00:03:12 But what I would say is that the very best poker players in the world, when you take somebody like, for example, Erik Seidel, really deeply conceptually understand what drives the strategy in the game, they're very, very, very smart. I think those are the ones that last longer. For the same reason that I think, for example, in investing, the people who really stand the test of time really conceptually understand what they're doing instead of just applying tactics that are working, because as markets change, you have to change what you're doing. If you don't understand things at a deeper level, I think you don't have that flexibility.
- Demetri Kofinas:** 00:03:47 That's so interesting. How do you feel that your experience in poker, and maybe also combining your experience in school

with studying psychology, helped you to appreciate thinking more deeply about the source of what's causing what you're seeing or what you're experiencing versus the phenomena or the phenomenology of it?

- Annie Duke:** 00:04:05 What I would say is I think that there's two ways. The first, which I go into pretty deeply in my book, is that the relationship between outcomes and decision quality is pretty loose, and, in poker, it's very loose. What do I mean by that? Well, in poker, I can play a very poor hand, I can play it very poorly. I can take bad cards, play it poorly, and still win. I can take good cards, play them quite well, and still lose.
- Annie Duke:** 00:04:38 What that really teaches you is that you need to understand that just because you lost a hand does not mean you played it poorly, just because you won a hand does not mean you played it well. This is a really important lesson to learn in poker that really is true of most things in life as well. You can take the simplest example. I have run red lights in the past. I have never gotten a ticket, I have never got in an accident doing so.
- Demetri Kofinas:** 00:05:07 That's a good example.
- Annie Duke:** 00:05:08 That doesn't mean that I think that it's a good decision. The reason why you can see so clearly through to that particular example is because there's so much consensus around that being a poor decision. But imagine, most kinds of decisions that you're making are more opaque. There isn't as much consensus around whether they're good decisions or not.
- Annie Duke:** 00:05:26 When you just take outcome quality as a signal, you just take the result as a signal for whether the decision quality was good or not, you're going to be in really big trouble. You're going to think that running red lights is a good idea because you happen to get through safely. I think the poker really pokes at that in a way that really makes you see the noise in the system.
- Demetri Kofinas:** 00:05:48 That's interesting. When you're talking, I'm thinking about the fact that there are certain decisions that we make in life where the outcomes are more closely correlated each time to the decision we make versus other outcomes where they're fat tails, where we could take that bet a thousand times and it doesn't work out against us. But then that one time it does, it's devastating.
- Annie Duke:** 00:06:07 Devastating.

**Demetri Kofinas:** 00:06:07 It destroys the entire ecology. Would you say, in poker, that outcomes are more closely aligned with actions versus life in that sense it gives you a place to practice that on some level?

**Annie Duke:** 00:06:22 This is what I would say is that I think that there are certain things in life where, just as you say, there is this very high correlation. If we were to divide the world into analogies to two different types of games, we could divide the world into decisions that are like chess, where I make the decision and the outcome is going to be very tightly correlated to the quality of the decision. As an example, if I chose to jump off a thousand-foot cliff-

**Demetri Kofinas:** 00:06:52 That'll be the last decision you ever made.

**Annie Duke:** 00:06:53 Right. But the outcome quality is going to be pretty well correlated to the decision quality. What you find in chess is that you can actually take the result-

**Demetri Kofinas:** 00:07:04 In poker or ...

**Annie Duke:** 00:07:05 In chess.

**Demetri Kofinas:** 00:07:05 Chess.

**Annie Duke:** 00:07:06 You can take the result and you can really derive what the decision quality looked like. If we played chess against each other, if you win, it means you made better decisions relative to me. If I win, it means I made better decisions relative to you. We can even think about where on the continuum would sports game sit as an example.

**Annie Duke:** 00:07:25 If you take a game like tennis, for example, that's pretty correlated. There's not a ton of luck in tennis. It's pretty high on the skill continuum, so that if I beat you, it probably means that I played better that day in general. There's some luck, but not too much. Then you can take other things like, for example, the lottery. Obviously, there's a lot of luck in there.

**Annie Duke:** 00:07:47 In poker, what you find is that the correlations between your outcomes and the quality of your decisions reveals itself over the long run, because the quality of a single outcome in relation to the decision quality is very loose, but it is a game of skill. That happens to be mapped onto most of the types of decisions that we make in life, where how it turns out on the one time is not a particularly good signal, whereas in chess, it is. But how it turns out in the long run is a pretty good signal.

**Demetri Kofinas:** 00:08:21 That's a really interesting point, and I thought about that while reading your book. Two ways in which I thought about it, and both are complementary. One is a slightly biased coin, the extent to which your skill as your coin is slightly biased. The more times you flip it, on any given flip, you might be close to 50-50 to come up heads or come of tails. But over the long run, you're more likely to get one outcome than any other disproportionately, right?

**Annie Duke:** 00:08:46 You could think about it that way. That's a really good way to think about it. The other way you could think about it is that you have a fair coin, but I'm going to win \$1.05 and you're going to win \$1. If I'm making that decision, that I understand something interesting about the coin and it's my decision relative to the coin, that's another way that you can get at the same idea. If I'm going to win \$1.05 when we flip and you're only going to win \$1, in the long run, I'll end up with all of your money. But in the short run, it's very easy for you to win a few in a row.

**Demetri Kofinas:** 00:09:21 How do we think about that in the context of life? Because life is unfair, no question, or the experiences that we have. That's something else I want to ask you, philosophic speaking, towards the end of the interview, to comment on how to deal with unfairness on maybe an emotional, personal, or psychological level, deal with that fact about life.

**Demetri Kofinas:** 00:09:39 But life is unfair, but skill obviously plays a role in outcomes. Over the duration of our lives, given the fact that we've had so much opportunity, let's say you have a full life, let's put aside the existential risk factors that can curtail life, is it fair to say that skill is disproportionately more important a variable than luck in life? I mean I understand this is a really difficult question to point out, but I thought about it a bit while considering your work.

**Annie Duke:** 00:10:09 Yeah. We'll get existential. Let me divide that into two pieces. One is that I don't know that I would use the word "fair" because I think that there's a value judgment there. As an example, some people were born in 1600, when we didn't have vaccines and all sorts of stuff. Some people are born today when we do. Some people might think that people born in 1600 were born at a time which, relative to people today, it was unfair that they were born then. But I think that that's really a value judgment because some people might say, "Oh, no. It's really nice to live then when there was no technology and people were closer." You can identify the good and the bad in it.

- Annie Duke:** 00:10:48 I think that very often what happens is that when we're talking about things that are influenced by luck, it's hard to know at the time, without getting some space from it, to understand whether it's good or bad luck. I think that, in general, most things are some of both. I'll give you an example from my own life.
- Annie Duke:** 00:11:07 When I was at the end of graduate school. I was going off to become a professor. I was actually on my way to my first job talk at NYU. I was trying to get back to New York. I've been struggling with some stomach issues, and they really came to a head and I ended up in the hospital for two weeks. I had to cancel all my job talks. In academics, the job cycle is seasonal, so that meant I had to wait a year while I recuperated. At the time I felt this was very bad luck. I felt it was very unfair that my body had failed me, that I had failed, and that I'd gotten so sick.
- Annie Duke:** 00:11:42 It was during that year, though, that I started playing poker. Was that bad luck? I don't know. It felt like it at the time, but as I sit here today and I look back on it, I think, oh, well, there's some good luck involved in that because, otherwise, I don't think that there's a high likelihood that I would have ended up doing what I do.
- Annie Duke:** 00:12:00 Instead of thinking about fair and unfair, what I like to think about is that there are things that are influenced strongly by luck, where you're born, who you're born to, what time you're born, what your genetics are, those kinds of things. I mean there's a lot of luck involved in the way that our lives turn out. Instead of thinking about fair or unfair, I think those are the things that are out of your control.
- Demetri Kofinas:** 00:12:23 Is another way to say what you're saying that things don't necessarily turn out the way we want them to turn out? If, for example, you didn't want to be hospitalized. If you've gone back in time, someone asked you, "Annie, would you want to spend two weeks in the hospital," you'd say, "Absolutely not." But, in retrospect, it turned out well for you, but how much of that was really ... That it wasn't unlucky versus the way you dealt with it, or what came out of it as a result of the way you interacted with it?
- Annie Duke:** 00:12:49 Yeah. I think that brings me to the second point, that when we think about the skill elements of luck, it's like, I mean to use a poker analogy, you're dealt a certain hand, and that's totally random. The decisions that you make in regards to that hand determine the possible set of futures that could occur, some good, some bad, and you have a range. The decisions

determine, first of all, what the set of futures are and, second of all, what the probabilities of any of those particular futures might be. But beyond that, you actually don't have any control over which future occurs.

**Annie Duke:** 00:13:25 As an example, going back to the traffic light example, we can think about that pretty simply. I make a decision to go through a green light. I'm following all the traffic rules, I'm paying attention to the person in front of me, I'm going the right speed, my car is in very good repair. I've made all sorts of good decisions around how am I going to get through the intersection,

**Annie Duke:** 00:13:46 That determines the set of possible futures. I get through safely, I get in an accident, I get in a near miss, I run over something and my tire blows, mechanical failure of the car. We can list out, "Okay. What are all the possible things that someone could rear end me," but my decisions determine what the probabilities of each of those futures might be as well as the set. I've lowered the probability, for example, that I'm going to get in an accident as I go through.

**Annie Duke:** 00:14:15 That's really where I think about it is that there's all sorts of ways in which we're born with a particular hand. Then even after we're making decisions, the decisions determine the set of possible futures, but only one of those futures can occur. Which one of those occur is really largely due to a matter of luck.

**Demetri Kofinas:** 00:14:33 Would you say that your progression as a poker player and also as a person, I suppose, applying this to your own life has been an interplay between trying to understand rationally and consciously this probability distribution, and then using that to, in some sense, hack or work on your psychology or your physiological dispositions?

**Demetri Kofinas:** 00:14:54 For example, a good example is actually the way that you played a game against your mentor, Erik Seidel, that I've heard you talk about, where you felt that if you had to play him on his terms or on skill, you'd lose. You made a conscious decision, given that you knew that, to execute a different game plan which would increase the level of luck.

**Demetri Kofinas:** 00:15:14 I guess one of the things that I felt in reading your book ... And I mentioned to you I don't play poker, so this was kind challenging for me. Usually almost all the interviews we do, even though I may not know the subject, I have some level of connection to it. This was a unique experience trying to do it.

**Demetri Kofinas:** 00:15:30 I thought about this one particular thing, which is that there's a lot of execution on what you're doing, like when you're playing poker. Again, the same thing in life. We find ourselves in situations where we can prepare all we like. The same thing with a fight. If you get hit, it changes things, or if you're diagnosed with cancer, you're in a very different situation than you could think about it, theoretically speaking. I wonder how you would deal with that, how you've dealt with that interplay both in poker and maybe in life. Does that make sense?

**Annie Duke:** 00:15:55 Yeah, I think it does. I think I understand what you're saying. Let me try to respond and then you can tell me if I'm completely off-base, because I may think I understand, but I actually don't.

**Demetri Kofinas:** 00:16:03 I may not be the best person.

**Annie Duke:** 00:16:06 I think I get it, though. I think that it goes back to your question of fair or unfair. I think that what we want to avoid is being reactive and being an emotional mind as much as possible. It's really hard because when you do have that situation of you have a very good hand and that you feel you played it well and you still lose, it feels very unfair. It really does. When you start to think about things as really, really unfair, what happens is that the next decision that you make gets affected in a negative way, because you're thinking about the unfairness of what happened before as opposed to focusing on what next. What should I do next? How do I make a good decision going forward?

**Annie Duke:** 00:16:47 This is one of the biggest challenges for poker players is that, first of all, when they lose, they get emotional and they go on something called tilt, which is a word that I introduce in the book, hopefully, for general consumption. It comes from pinball machines. When you shake them, they shut down. Poker players call that very emotional tilt because the rational part of your brain shuts down and you start making really bad decisions going forward.

**Annie Duke:** 00:17:11 It's something that you really have to defend against because in poker, when you're playing in a tournament, you don't get to take a minute. You don't get to say, "You know what? Let me have a half hour. I'm just going to go wander around," because they're going to be dealing the cards. Your chips are going to be in play anyway. You've got to figure out, "How do I get myself right?"

**Demetri Kofinas:** 00:17:27 You don't break at all?

**Annie Duke:** 00:17:29 There's two different ways to play poker. One is a cash game. You buy in in a poker room in a casino and you can get up whenever you want. You can cash your chips out whenever you want. In a tournament, you play until one person has all the chips.

**Demetri Kofinas:** 00:17:39 How long can that go for?

**Annie Duke:** 00:17:41 Days.

**Demetri Kofinas:** 00:17:42 But you break, obviously, when the bathroom is-

**Annie Duke:** 00:17:44 Yeah. You get a break usually every two hours. You get a dinner break. But if you're within that two-hour time that you're supposed to be playing-

**Demetri Kofinas:** 00:17:51 That's interesting.

**Annie Duke:** 00:17:52 ... you can get up and walk away, but you're sacrificing-

**Demetri Kofinas:** 00:17:54 That sounds exhausting.

**Annie Duke:** 00:17:55 It's totally exhausting.

**Demetri Kofinas:** 00:17:56 You can't even go to the bathroom to just-

**Annie Duke:** 00:17:59 Well, you can.

**Demetri Kofinas:** 00:18:00 ... splash some water in your face. It would be-

**Annie Duke:** 00:18:01 Sure, but you're missing hands.

**Demetri Kofinas:** 00:18:02 Oh, wow! Wow!

**Annie Duke:** 00:18:04 This idea of how do I not allow what feels so unfair to get in the way of the future decisions that you make becomes very much at the fore of what poker players are trying to do. This is why I challenged you on this idea of fair or unfair. What I would argue is that if you make decisions and you have a 99% chance of a great result and a 1% chance of a bad result, and you have the bad result, that is not unfair. That's just 1% of the time you're going to see that result.

**Annie Duke:** 00:18:43 I think that having that attitude where you get the judgment out of it and you just have this, "Well, that happened. Let me move on," because that was a matter of luck and that was in the set of possible futures that could occur, and what I need to focus on is

how do I improve my decision-making, not whether the outcome was fair or unfair because the outcome was just the outcome.

- Annie Duke:** 00:19:05 Now do you execute on that 100% of the time? Not even close. I still have things where I think that was really unfair. It's hard not to allow your mind to go there. But when you identify that your goal is to view things as that was just in the set of possible futures and to take the judgment out of it, it does allow you to more often calm down. It does allow you to more often just move on to the next decision and think about how you might improve your decisions.
- Annie Duke:** 00:19:37 What ends up happening is things like, "That was so unfair. I'm so unlucky. Why do things like that happen to me?" actually become triggers for you to take a step back and get out of yourself and examine what's going on. I think that that's really helpful. That's number one that I think is going on in poker.
- Annie Duke:** 00:19:55 The other thing is that this also goes along with when you have a bad outcome, is that when you allow unfair as an option, when you allow 'I can't believe how unlucky that was' as an option, it gives you an escape hatch from examining how your own decisions might have led to the outcome that occurred. We really mentally want those escape hatches.
- Demetri Kofinas:** 00:20:25 You're assigning blame to the environment or-
- Annie Duke:** 00:20:25 The world, right. "Something happened to me. That was really unfair. I'm so unlucky. Why do things like that always happen to me?" It's a real escape route from examining your own decisions and taking on maybe some responsibility for why that outcome occurred.
- Annie Duke:** 00:20:43 One of the things, and this is why I was very clear and I said your decisions determine the set of possible outcomes, is that whatever outcome occurs is generally not solely a matter of luck or solely a matter of your decisions, it's usually a combination of those. What we don't want to do is allow us to escape the examination of our own decision-making process through this use of the word "unfair", which allows us to say, "Well, that was just unfair. That wasn't my fault."
- Annie Duke:** 00:21:13 As an example, if I go through a green light and I get in an accident, yeah, that was probably mostly a matter of bad luck. I mean I agree. But if I just offload it to that, then I don't think about whether maybe I could have been more defensive or was

I a little distracted and I didn't see the other car coming. Regardless of the fact that mostly it was probably not my fault, because I was going to a green light at the appropriate speed-

**Demetri Kofinas:** 00:21:37 Was it you that quoted von Neumann in your book?

**Annie Duke:** 00:21:39 Yeah.

**Demetri Kofinas:** 00:21:40 Because we just did an episode on information theory, and I wasn't sure. I was like, "Was I reading that in Jimmy Soni's book?" What was the quote? Could you tell our audience?

**Annie Duke:** 00:21:49 About him driving?

**Demetri Kofinas:** 00:21:50 Yeah. He said it was about the trees, like-

**Annie Duke:** 00:21:53 Yeah, the trees were moving along in an orderly fashion. Then one of them jumped out in front of him, basically.

**Demetri Kofinas:** 00:22:01 Did you also quote Richard Feynman as well?

**Annie Duke:** 00:22:01 I did.

**Demetri Kofinas:** 00:22:01 You did, right? I remember. I'm getting-

**Annie Duke:** 00:22:02 I've got Feynman, John Stuart Mill. Yeah, von Neumann. Yeah. Anyway, that's why ... Look, I think that ... Hopefully, I understood what you meant by that. I think that we need to-

**Demetri Kofinas:** 00:22:13 I think you understood it better than I did.

**Annie Duke:** 00:22:14 We need to think about it in two pieces, one is how is it getting in the way of learning? How is it getting in the way of improving your decisions? Because you're using this idea of fair or unfair or unlucky as a way to escape the examination of your own decision process, so that retrospectively.

**Annie Duke:** 00:22:29 Then, prospectively, when we start really allowing fair and unfair into our thinking, prospectively it affects our decisions going forward, because we stay in an emotional place. We're living in the rumination about what happened to us that makes it harder for us to make good decisions going forward. It's a retrospective and a prospective problem.

**Demetri Kofinas:** 00:22:48 Well, it sounds like you're talking about developing a certain equanimity in the face of life's caprice.

**Annie Duke:** 00:22:54 That is a very, very good way to put it. I just want to say I'm playing Words with Friends right now and I have "caprice" on the board. I can't-

**Demetri Kofinas:** 00:23:03 I hope not while we're doing-

**Annie Duke:** 00:23:03 No, no.

**Demetri Kofinas:** 00:23:04 Not while we're doing the interview.

**Annie Duke:** 00:23:05 I was doing it on the way over, and I have "caprice". I'm just staring at it because I can't find a place to put it. You inadvertently needled me.

**Demetri Kofinas:** 00:23:12 See, we are in synch. But would you say that you've gotten better at that over the course of your life? Also, again, speaking to you, it's hard for me to separate your career in poker with your life in general, because so many of these lessons ... Your book really isn't about poker.

**Annie Duke:** 00:23:27 No.

**Demetri Kofinas:** 00:23:28 It's poker is it's not even necessarily ... It is a metaphor, but it isn't even a dominant metaphor. It is the couching metaphor of the book, but it's more like you're writing the book coming from a place of saying, "Look, I'm someone who's thoughtful and has thought about a lot of these things in my life. I had the good fortune of being talented and able to compete in poker. Through this experience, I was able to learn more truths about life." It's an existential conversation, I feel like.

**Annie Duke:** 00:23:57 I feel like I need to get a clip of you saying that. Then when people ask me what the book is, I'm going to be like, "Well, just listen to what Demetri said," because-

**Demetri Kofinas:** 00:24:06 That's a great endorsement for this interview.

**Annie Duke:** 00:24:08 Well, yeah, I know, because I think that that's right. I mean I want to make it clear. You don't have to understand anything about poker in order to understand the book. First of all, I'm flattered that that's what you think that the book is. That was definitely what I was aspiring to, was one of the things that we can think about, this comes from psychology, is the idea of wicked versus kind learning environments. Kind learning environments are there's a lot of feedback, it comes really quickly, and it actually relates to your decisions.

**Demetri Kofinas:** 00:24:38 This is what we were talking about before, essentially, having good feedback-

**Annie Duke:** 00:24:39 Yeah, chess has a really-

**Demetri Kofinas:** 00:24:39 ... immediate feedback.

**Annie Duke:** 00:24:43 Exactly. A wicked environment is where something has fallen apart. There's a couple of things that could fall apart. One is that essentially the feedback loop is too long. As an example, if you started smoking in 1920, you wouldn't know for 40 years maybe that you'd finally get the feedback, but it would be way too late. That would be one way that it can be wicked. The other way is that it's just really noisy, so that the feedback that you get is not particularly well-related to the decisions that you make.

**Annie Duke:** 00:25:15 What I think is interesting is that poker has one thing going for it, which is that the feedback comes very quickly. We do have a very tight learning loop. It's closed. I make a decision within 30 seconds, I get some feedback on it. That's good. That's not like the smoking example.

**Annie Duke:** 00:25:30 But I think that what people need to realize, because I've actually seen poker uses an example of a kind learning environment, is that certainly at the professional levels, the number of times that you see the cards at the end of the hand, you show your cards, I show my cards, is only ... I think it's between 10% and 15% of the time.

**Annie Duke:** 00:25:48 I think I use this phraseology in my book: most hands end in a cloud of hidden information, so that the information that you really need to understand, some of the things about the quality of your decisions actually mostly doesn't get revealed. You're doing a lot of guessing at it.

**Demetri Kofinas:** 00:26:08 And bluffing on the other side.

**Annie Duke:** 00:26:10 Well, because I don't get to see your cards. You have these two pieces. You have hidden information, so that that limits the quality of the feedback that you get. Then you also have this luck element, which also puts a limitation on the quality of the feedback that you get.

**Annie Duke:** 00:26:25 I think you become very, very sensitive to these issues of what does it mean to try to learn in a noisy environment? What does it mean to try to stay calm? What does it mean to not fall into this idea of things are unfair and things happen to me and to

really get very kind of sanguine about the idea that there's just two things that determine how your life turns out?

- Annie Duke:** 00:26:48 It's the quality of your decisions and luck. If you spend all your time focusing on the luck element, you have no control over that. It's really actually quite amazing how much time we spend on the luck element.
- Demetri Kofinas:** 00:27:01 Is that right? That's another question I have for you, because when I was reading the book, I related more with actually I think I tend to ascribe ... And I have to think about this more. I've got to reflect more because I don't think I've done enough of this. Again, reading your book, I thought a lot about ... I actually go a little anxious thinking that I should reflect more on my decisions.
- Demetri Kofinas:** 00:27:18 But I felt like, if anything, I spend more time ascribing blame to myself in circumstances where perhaps I'm more deserving of compassion than the opposite of saying, oh, I was unlucky or whatever else. I wonder really how common is that and how common is the opposite problem of beating yourself down in cases where you really shouldn't?
- Annie Duke:** 00:27:39 Yeah, I think there's a couple of factors that come at play. First of all, I'm pretty sure that highly productive people are actually more likely to blame themselves for their decisions. It's obviously a cue to go in and examine your decisions, which is more unlikely to make you highly productive. But the vast majority of people fall into something called self-serving bias.
- Annie Duke:** 00:27:59 Self-serving bias is if I have a good result, it's because I made really good decisions. If I have a bad result, it's because I was very unlucky. It's really onboarding good results and offloading bad results. That's when you're examining for yourself.
- Annie Duke:** 00:28:16 The opposite pattern also occurs, where people will take on a lot of blame for themselves for their own bad outcomes and actually ascribe good outcomes to luck. It's slightly more likely in women, it's more likely if you're depressed.
- Demetri Kofinas:** 00:28:33 Why women? That's a really interesting question. I didn't mean to interrupt you, but there's actually a great study. This came up in my research. Let me see if I can pull it up here. There was a study from 1999. I actually want to give a shout out to my old producer, Justine Underhill, who gave this to me this morning. It's actually the second time she pointed it out to me. She pointed it out to me years ago.

**Demetri Kofinas:** 00:28:51 There was this 1999 study that found that Asian American women perform better on math tests when their ethnic identity was activated, but worse when their gender identity was activated compared with a control group. I thought that was interesting because when I was reading your book, I was thinking about the importance of mindset and how we frame things and what role that played. But I'm sorry to interject. It was just a good opportunity to bring that up. I thought that was interesting.

**Annie Duke:** 00:29:16 Yeah. The answer for me of why it's more common in women is I don't know. I just know that it is.

**Demetri Kofinas:** 00:29:23 Do you think it was common in your case? I mean did you experience it in your case, do you think? Poker is a predominantly male-

**Annie Duke:** 00:29:28 Yeah, it is.

**Demetri Kofinas:** 00:29:30 You have characters like Jimmy the Greek and Ira the Whale.

**Annie Duke:** 00:29:33 Yes. I'm trying to think was it more common in me? Gosh, I don't know. I certainly aspire to view good and bad outcomes with more of a clear eye. I mean I definitely aspire to that. But, boy, yeah, I know. I did a lot of that, "That was so unfair. I can't believe I lost that hand. I played so well." I'm imagining that I probably fall more into the self-serving bias category.

**Annie Duke:** 00:30:01 An interesting thing happens, which is that when we actually evaluate people who we consider to be peers, people who we considered to be people we refer to in order to understand how we're doing. We all have a reference group. Your neighbor would be good as a reference group. You think that your dream, like, I'm really going to think that I made it when I get that Volvo, and then your neighbor drives up in a Mercedes. You're like, "What?" Then you're sad all of a sudden, because it's not about-

**Demetri Kofinas:** 00:30:31 Oh, man.

**Annie Duke:** 00:30:32 ... how we're doing in an absolute sense. We compare ourselves to a reference group. When we're evaluating the outcomes of someone who we consider to be someone we refer to, we actually flip it. Now when they have good outcomes, it's because they got so lucky. When they have bad outcomes, it's because, clearly, they're such bad decision-makers. We get that.

**Annie Duke:** 00:30:52 Then the other thing that we do is when we're just judging from afar. These are people who we don't refer ourselves to. Let's call this the default. This isn't we're in direct competition or comparison with somebody and we're not evaluating our own outcomes. This would be the default mode is that we do something called resulting, which is just good outcome means good decision, bad outcomes means bad decision. We just use it as a perfect signal for those.

**Annie Duke:** 00:31:19 The other thing that I'll say is that one thing I think is really interesting is that ... And this actually refers back to this red light example, is that one of the times where we really get resulting to be very strong is when this decision that we're evaluating is innovative in some way. When there's a lot of consensus around the decision, we allow luck as an explanation.

**Annie Duke:** 00:31:45 If I go through a green light and I get in an accident, you'll allow luck to be an explanation. You'll allow for that because there's a lot of consensus. It's completely agreed upon in society that going through a green light is a good decision. But when we do something that's more innovative, now we're much less likely to allow luck to be an explanation.

**Annie Duke:** 00:32:08 One of the places we're actually seeing this conversation right now in a way that's really going to affect policy and innovation is in self-driving technology. There's a study actually that just came out that people won't accept self-driving cars until the technology is four to five times safer than a human driver, which obviously if it's 2% safer than a human driver, we should accept it.

**Annie Duke:** 00:32:35 You have to ask what's going on there. I think there's a lot of things that have to do with illusion of control for human drivers, the ability for me to understand what your intent is so I can say things like you didn't intend to hurt that person, but I don't really know that about the technology because the technology is a black box. But I think it also has to do with this resulting problem with innovation, that we have consensus around the decision for humans to drive cars and that we accepted what some of the consequences of that are, and so we're okay with human drivers and what the collateral damage of that might be.

**Annie Duke:** 00:33:09 But when we're talking about self-driving technology, obviously this is an innovative choice, and so we look at it with a bigger magnifying glass. We're more likely to attach bad outcomes to the decision to actually put these cars on the road being bad. It's so strong that you can see really how much safer people want the self-driving technology to be before they'll be

accepting of it. That's how strong that problem with not being in the status quo goes in terms of how much blame we're assigning.

- Demetri Kofinas:** 00:33:40 It's also interesting what you speak there about control. That was something else that I thought about while reading your book, which is it that we're uncomfortable with uncertainty, which you bring up, and obviously we are, and how much are we uncomfortable with not having control? Those two things are interrelated.
- Annie Duke:** 00:33:54 They are interrelated. There's a variety of biases that have to do with this control element, that we think that we have more control over outcomes than we actually do. Generally, when we're the decision-makers, we really think we have a lot more to do with the way that things turn out, at least when things turn out well. We like things that we can control. We don't like to give up control, even if I were to show you, well, statistically, you're going to be better off in a self-driving car. You're like, "No, but not me."
- Demetri Kofinas:** 00:34:27 Well, in certain cases, I mean when you're in an airplane, it's scary because you're not in control. But I think most people would be happy to let the pilot take over the plane.
- Annie Duke:** 00:34:35 It's actually interesting because you see this in fear of flying as well, that why are people afraid to fly? Because they don't have control over ... They accept it because they have to get from point A to point B, but people are very afraid of flying. One thing that you see, for example, is that when you give up that control, people are willing to make choices where they feel like they have more control, even if they're less safe.
- Annie Duke:** 00:34:58 One thing that happened that was interesting was after 9/11, the transportation deaths went up. Why? Because people weren't flying as much, which is actually much safer, and people were choosing to drive, because they felt like this consensus around what it meant to be in a plane and, "Okay. I'm willing to give up control to the pilot, but that means that they're in control. All right, I'm willing to ... ," all of a sudden all those fears about not being in control of that particular vehicle really came to the fore and people started driving across country. That really spiked accidents and deaths. It wouldn't matter if you said to somebody, "No, but you're actually safer at that point flying a plane."
- Annie Duke:** 00:35:35 This idea of like, "Well, I understand what my intentions are. I feel like I have control. I can assign intentionality to other

drivers on the road. I understand what they're thinking and what their decision processes," that feels better to us. It is related to the certainty problem, which is the whole idea of this illusion of control is that we think that there's a tighter connection between a decision and an outcome than there actually is.

- Demetri Kofinas:** 00:36:03 You write in your book that being smarter makes it worse.
- Annie Duke:** 00:36:06 It does.
- Demetri Kofinas:** 00:36:07 Is that another way of saying that as we become more experienced or we become better at something, we begin to become complacent about the extent to which misfortune or luck or caprice, as we said, can affect me as opposed to what I can control?
- Annie Duke:** 00:36:26 I would say that being smart, making it worse, has to do with your ability to tell a good story. John Hyde actually says that we all are our own best PR agents and we like to tell a really good story about ourselves. I want you to think that I'm super smart and that I'm not biased and that I am rational and I interpret the world really rationally and I'm awesome.
- Annie Duke:** 00:36:50 There's all sorts of different ways that we get that point across. Here would be a really simple one. The things that I believe I would like to be true, and I would like you to also believe the things that I believe. If we disagree, I want you to be wrong and me to be right, because that's wrapped into the way that we naturally think about ourselves. It's a good thing to move away from, I talk about that in my book, but, naturally, we come into a world saying, "I have these beliefs and I want to affirm these beliefs." If we want to affirm these beliefs, who's better at slicing and dicing data, at picking out information and analyzing it in a way that supports what they believe: people who are smart or people who are not so smart?
- Annie Duke:** 00:37:37 There was a really great study by Dan Kahan which really illustrates this really well, which is this ability to spin things in your favor. He had people come in and they just analyzed data tables. It was like a two by two data table that had to do with skin cream. People don't really have beliefs about skin creams, so they're coming in with pretty neutral views. They don't have some sort of belief that they want to affirm.
- Annie Duke:** 00:38:01 He just divides them up. Here are the people who are pretty good at understanding what a two by two tells you in terms of

the correlation between things and people who are not so good at it. He's got them divided into groups. These are the people who are very good with this kind of data, here are the people who are not so good with this kind of data, numerate, innumerate.

- Annie Duke:** 00:38:20 Now he switches the data to gun control and crime. What's the relationship between gun control and crime? It happens to be the exact same data that they were very good with when it was skin cream and psoriasis or whatever. What he finds is that, weirdly, the people who are better with the data when it had to do with skin cream are worse when it has to do with gun control. They make their conclusions conform more to what their previous views on gun control is. If they think that gun control reduces crime, they read the data now as affirming that gun control reduces crime. If they believe that gun control is neutral or increases crime, then they read the data to conform to that belief.
- Annie Duke:** 00:39:07 Why can they do that? Well, because they're pretty good with numbers, so they can spin it. You know what I mean? If you think about it, it's like I can go find studies that will support one view or the other. If I'm going to spin a story to you, I'm going to be pretty good at telling you why this data is really good and it's very relevant to my belief and why you shouldn't believe this data. I'm going to be pretty good at actually discrediting that.
- Demetri Kofinas:** 00:39:28 This falls on what you just said when you consult companies or organizations. I suppose one of the things you're trying to do is you're trying to build a culture of objectivity, objective thinking, questioning, right?
- Annie Duke:** 00:39:38 Yeah, openness to dissenting opinions.
- Demetri Kofinas:** 00:39:41 Openness. Implied in that is that you believe that you can create a culture of openness.
- Annie Duke:** 00:39:47 I think that you can by actually leveraging some of the biased ways that we process information, weirdly. What I say is we're built the way that we are. While it would be really nice for all just to be completely open and to not cling to our own beliefs and to just be mindful and observe the world and all of that, it's unrealistic in terms of the way that, on a day-to-day basis, we think. The way that I think about it is how do you actually leverage things that get in the way of rational thinking to actually work toward rational thinking. Let me give you an example.

**Annie Duke:** 00:40:26 One of the things that we know is very bad for processing information and rationality is the tribal nature of human beings. What you can see is that, for example, your political identification will really drive the way that you process information. It will tell you what to believe, even if those beliefs conflict with what you believed last week. If your tribe switches position, you just switch along with it. It will cause you to be very inconsistent in the way that you evaluate statements from the other tribe versus statements from your own tribe.

**Annie Duke:** 00:40:59 As an example, if I take some sort of policy, say a policy on welfare, and I ascribe it to Obama or I ascribe it to Trump, your view of that policy will be determined not by the policy itself, but whether you like Trump or you like Obama.

**Demetri Kofinas:** 00:41:17 That's really weird. Do you find that weird?

**Annie Duke:** 00:41:19 Yes.

**Demetri Kofinas:** 00:41:19 I mean I know you studied it. It's odd to me. I mean, obviously, that is something that's characteristic of human beings, some people exhibit it more than others. How much of that is something that you're just born with a propensity for and how much of that is something that you learn because of your environment?

**Annie Duke:** 00:41:34 I think that we're all born with a propensity for it. I think that you can see why that might have been good from an evolutionary standpoint to adhere to a tribe, because then you have people cooperating together toward a common goal, that I think helps survival when we have these really big heads and big brains so that we aren't born being able to walk and defend ourselves right away. We need the protection of the tribe in that way. We don't have very long claws and we don't have super sharp teeth and all these things where helping each other is really important.

**Annie Duke:** 00:42:06 A couple of things that the tribe gives you is something called epistemic closure, which is they tell you what to believe. You can see how that might be useful, because we can't know everything there is to know and we can't examine all of the evidence. Most of us accept that the Earth revolves around the sun and not the other way around, even though we're not astronomers. It tells you the things that you're supposed to believe are true, which is helpful because that allows us to save some cognitive space, but it does cause you to sometimes have some very irrational beliefs.

**Annie Duke:** 00:42:36 But the other thing that I think is important for how do you leverage that for good instead of evil, it gives us distinctiveness. It makes us feel like we're distinct from other people. When we go back and think about that problem of a reference group, we want to feel good in comparison to the people that we refer to. One of the ways to do that is to feel in some way that our tribe is superior to other tribes that might be out there.

**Annie Duke:** 00:43:02 That can obviously create a lot of really bad stuff. We can see that in our political discourse right now that maybe that's not so great. But when you're trying to create a culture around truth-seeking, around saying it's not so important that my prior beliefs be true, what's important to me is that I create a very accurate model of what is objectively true. This is what we want to do. Now within our group, let's make that part of our distinctiveness.

**Annie Duke:** 00:43:31 What makes us different? I look at other people and they're all just rationalizing and they're biased, and it's confirmation bias, motivated reasoning, and all this stuff. They're not trying to find the objective truth, they're just believing what they're told and they're just clearly arguing to try to affirm whatever their prior beliefs are. But that's not what we do. We do the really hard thing.

**Annie Duke:** 00:43:53 One of the things that really made me understand the power of that, like how do I make my culture distinct in this way that aligns with what my long-term goals are, actually comes from my experience in poker. When you walk down the halls of a poker room, during one of those breaks, one of the times that they let you get up from the table during a tournament, what you mostly hear is these groups of players that gather around. This is what you hear, "I cannot believe that guy's such an idiot. How could he beat me in that hand? I played it so well and I got so unlucky," and "Oh, my gosh. You can't even believe what that- "

**Demetri Kofinas:** 00:44:28 That's really a common thing. That's odd. I would have expected the opposite.

**Annie Duke:** 00:44:31 Oh, it's the most common. It's the most common.

**Demetri Kofinas:** 00:44:32 That's so interesting.

**Annie Duke:** 00:44:32 So then-

**Demetri Kofinas:** 00:44:34 I would have expected the opposite, given the fact that these are professionals. We're talking about-

**Annie Duke:** 00:44:38 I mean they're all professionals of some degree. So then I tell you my hard luck story and then you say, "Oh, well, you won't believe what happened to me." Even though you don't really care about my hard luck story, you listen to it, you show me sympathy because you're waiting for your turn to get sympathy back from me.

**Demetri Kofinas:** 00:44:53 Is it just venting, though, and understand that you're just venting, or is it something where you've actually convinced yourself of that?

**Annie Duke:** 00:44:59 Oh, I think it's something where you've actually convinced yourself. I do.

**Demetri Kofinas:** 00:45:03 Was the Annie Duke that was playing poker the same Annie Duke that's sitting at this table, or has this Annie Duke evolved as a result of those experiences? I mean were you as self-reflective then as you are now?

**Annie Duke:** 00:45:14 I think the Annie Duke from Tuesday, February 15th in 1997 is not the same as the one from Wednesday, February 16th in 1997. By the way, I don't know if that was a Tuesday or Wednesday. I'm not one of those calendar people. I made that up. No. The answer is no, because hopefully ... I mean there's obviously some ups and downs, but hopefully I'm on some path toward something.

**Demetri Kofinas:** 00:45:38 What I'm trying to ask is, what I'm trying to get at is how much did your experience playing poker and being in those situations lead to where you are today where you can write a book and think about this stuff? Because a lot of people write books that incorporate behavioral psychology and probabilistic thinking and things like that. What I think is unique about you is this experience of testing it on such a rigorous basis. That's what I'm really curious about when you're talking. You give that example, for example.

**Annie Duke:** 00:46:05 Yeah. Okay. I understand what you're saying. The answer is would I be here without playing poker? I don't think so because in poker, it's this thing of like figure out a way to deal with it or die, because it goes back to that problem of markets change. Poker changes. The way that people played poker in 1994, when I started, is different than the way the people play poker in 2012, when I retired. My career spanned 18 years, and the

game really changed. If you couldn't understand, okay, maybe I'm losing because I'm not understanding about something that's going on, maybe my choices aren't so great. If you were just saying, "Oh, I can't believe these new players. They're such idiots. They don't know what they're doing," you can go broke to that kind of thinking.

**Annie Duke:** 00:46:54 I was really lucky. I mean this, again, goes back to that cultural thing, which is Erik Seidel in particular really introduced me to this demand for a different way to think. Very early on in my career, I went up to him just like everybody else and I was like, "I can't believe how unlucky I got. I lost a hand," or whatever.

**Annie Duke:** 00:47:11 He explained to me, "Okay. You want to be in my tribe? Here's what you have to do to be in my tribe. Why are you telling me this story? What's the point? If you really lost because of luck, then there's nothing for you to learn from it anyway. You're just complaining. By the way, I lose enough hands. I've got enough emotional baggage trying to deal with my own losses. Why do you have to offload that to me? There's no point. It had nothing to do with you if it's really true. Now if you have a question, if you want to discuss strategy, if you think there's something you could have done differently, maybe you misread your opponent, whatever it might be, maybe you shouldn't have played the hand, then I will sit and talk to you all day."

**Annie Duke:** 00:47:52 Now notice, what he's told me there is you're not allowed to focus on the stuff that you can't control. Life is the way things turned out: it's luck and the quality of your decisions. Don't tell me about the luck part. Don't tell me life is unfair because there's nothing you can do about that part. Tell me about the quality of your decisions. That's the thing that you can control.

**Annie Duke:** 00:48:14 Now what does that do for me? Well, first of all, I want to impress Erik Seidel. He's one of the best players in the world. I want to talk about hands with him. I want him to think well of me. I want him to view me as a peer who can engage in conversation.

**Annie Duke:** 00:48:29 Now what happens is, first of all, when I go back to the table, I'm no longer as likely to process it in terms of the luck elements. I'm more likely to be looking at places where I made mistakes or maybe I don't understand what somebody else is doing, because I want good material to go talk to him about. That's great. Then I also get to talk to him about it. That's even better because I get his advice, which is really good.

**Annie Duke:** 00:48:52 It all changes my thinking because now I say, "Oh-ho. I'm in this special tribe." I'm walking down the hall and I hear all of these people complaining about their bad luck, and I feel distinct because I'm going up to Erik, and the best thing that I know I can do when I talk to him is say, "I think I made a mistake." All of a sudden it becomes that I'm driving all of this feeling of ... It's really honestly, it's driving my ego.

**Annie Duke:** 00:49:20 It's not that I don't want to feel better than other people. I haven't become a monk and all of a sudden, it's just all about compassion for everybody, even though that's what I aspire to. I mean I aspire to be very just like all equanimity, but I also recognize that it's very hard in the moment to get there.

**Annie Duke:** 00:49:40 If I can walk down the hall and hear people saying that and feel like, "Oh, I'm special. I'm in a special tribe," that has to do with open-mindedness, that has to do with examination of your own mistakes and feeling good about that, that has to do with not blaming things on luck, but actually looking for the places where you can dig into the decision quality. Now all of a sudden look at what that culture did for me. You can bring that into your own life. You can create that for yourself where it's no longer about, "Let's focus on the unfairness."

**Demetri Kofinas:** 00:50:12 Do you think that over the last few decades that our society had become more close-minded in some important ways, that we've become more of an answers-based culture than even we were and less open to inquiry, and saying, "I don't know," and being open to doubt?

**Annie Duke:** 00:50:29 It's so hard for me to say because I feel like it's hard to parse out how much of it is a change in the way that people think versus how much of it is that it's so out there and in view.

**Demetri Kofinas:** 00:50:48 When you say it is out there and in view, what do you mean?

**Annie Duke:** 00:50:50 That people are just tweeting. Every second you get to see their close-mindedness on this display.

**Demetri Kofinas:** 00:50:56 Their opinion, right.

**Annie Duke:** 00:50:56 Yeah, and opinions on display in a way that maybe you wouldn't have before. I can tell you this, that the data seems to show that people's political opinions haven't polarized so much as the parties themselves have polarized. When you think about the tribal nature of politics, that's problematic because the tribes are telling the people within those tribes what to believe. But I

mean I do think that it's very on display. Now I would suggest that people read like the ... Is it The Tower and the Square or The Square and the Tower? I think it's The Tower and the Square by Niall Ferguson ...

- Demetri Kofinas:** 00:51:28 Niall Ferguson's book.
- Annie Duke:** 00:51:30 ... because he talks about this issue of what happens when the communication is coming down from the tower to the square, which is vertical, versus this horizontal person-to-person communication. What I do wonder is when we didn't have as many people to communicate with, if you just had to get along better. You're my neighbor, you're the person I'm going to be interacting with. We might disagree on a bunch of stuff, but we better find the places of agreement.
- Annie Duke:** 00:52:01 Maybe we're going to moderate each other because we want to get along. We want to find the places where we can agree and maybe not be so extremized. But now I can ignore you, because everybody's talking to each other in the square, but now the square has gotten so huge through the internet. I can just ignore you.
- Demetri Kofinas:** 00:52:20 What is that thing that you say about open-minded people make friends?
- Annie Duke:** 00:52:21 Yeah, so the point that I make is that one of the things that I feel like really shuts down communication between people is actually expression of certainty. When I say something to you with absolute certainty, I've shut down the examination. Now I've shut down a couple of things. One is I've shut down my own curiosity, because if I already know, there's no reason for me to even want to know your opinion, because I already know the answer. There's no reason for me to go and look for something to read or to learn because I already know.
- Annie Duke:** 00:52:53 But also, I signal to you that I already know, and that's very likely to shut you down for a few reasons. One is that you might think that you're wrong, and so you don't want to speak up, because I've expressed whatever it is with total certainty. The other is that you might think that I'm wrong and you don't want to speak up, or because I've declared it with certainty if we do have an interaction and you disagree with me, we'll be adversarial as opposed to exploratory. When you express things and you express your own uncertainty, which is actually just an accurate model of what your beliefs really are, because how could we know anything for 100% certain?

**Demetri Kofinas:** 00:53:27 Absolutely.

**Annie Duke:** 00:53:27 We can approach 100% certainty, but for most of our beliefs, there's too much luck involved in the way that the future is going to turn out certainly and there's too much hidden information in terms of our ability to actually form a perfectly accurate belief about anything. When we're thinking about how do I represent the objective truth, expressing uncertainty is actually part of the way to do that. It's got this wonderful benefit of telling you that I'm open to your opinion.

**Annie Duke:** 00:53:52 Here's an example. Let's say that I were to say something. Here's a prediction that people are talking about a lot, and they seem to be declaring it with a lot of certainty. The Democrats are going to take the House in November. Think about the difference between me just declaring that to you versus if I say, "I'm reading a lot and looking at the polls, and it looks like there's a good possibility that the Democrats are going to take the House in November, but I don't know. It's six months away. If I had to guess, I would say it's 70% of the time that will happen."

**Annie Duke:** 00:54:25 Now if you've got information that is historically interesting like, "Oh, well, when the polls were this in this year, actually they didn't end up taking the house, or there's this particular lay of the land in terms of have you thought about, for example, gerrymandering and whether the polls actually map perfectly on to what the result might be." I mean I'm just making all this up, but now all of a sudden if you have information that might actually inform my decision, you are now willing to give it to me, because I've signaled to you that my belief is in progress, that it's under construction, and I need help building my House.

**Demetri Kofinas:** 00:54:59 Which is actually the truth for all of us.

**Annie Duke:** 00:55:00 Which is actually just the truth because, by the way, last time I checked, it's June. A lot of stuff can happen between now and November. Just on that basis alone, it's tough to declare that particular prediction with certainty.

**Demetri Kofinas:** 00:55:13 Also, I mean for a culture that brands itself as being scientific, and ours does, it's a quite unscientific way to approach things because you cannot prove something definitively, you can only falsify it definitively.

**Annie Duke:** 00:55:24 Correct.

**Demetri Kofinas:** 00:55:24 There's a quote ... Annie, we're bumping up against the end here, but I have a few quotes of yours but there's one I really like in particular, and it speaks exactly to what we're talking about. I want to read it to the audience. "We are discouraged from saying 'I don't know' or 'I'm not sure'. We regard those expressions as vague, unhelpful, and even evasive, but getting comfortable with 'I'm not sure' is a vital step to being a better decision-maker. We have to make peace with not knowing." I really love that quote and I think it's a lesson that we should learn as a society.

**Demetri Kofinas:** 00:55:53 I see a lot for myself. That's why I asked you if you think we're becoming less objective a society because I seem to see it. It might be just because I'm getting older, and as I get older, I learn just how little I know and understand. But I see a lot of people, particularly in the media, feeling very comfortable stepping into what would be a discussion or a conversation, but instead is framed as an argument, always as an argument.

**Demetri Kofinas:** 00:56:16 Everyone comes set with their position. Their position is something that they need to defend because it's a competition. There's going to be a winner and they're going to be a loser as opposed to both being winners because both come out with a more objective understanding of the world, which we cannot know perfectly.

**Annie Duke:** 00:56:31 Yeah. Let me just latch onto something that you just said right at the end. One of the ways that I think about this in terms of how do you actually get this culturally into your life, this idea that we want to be seeking the objective truth, is by redefining what the goal of the game is. What does it mean to win?

**Annie Duke:** 00:56:50 Obviously, in the long run, you're going to do better if you have a more accurate representation of the world, because your beliefs are what would inform your decisions. The better your beliefs, obviously the better your decisions are going to be. Your ultimate goal should be to construct the most accurate view of the world, which means 'I'm not sure' is winning, because 'I'm not sure' is actually a way to get people to give you all sorts of information. It's a way to keep yourself curious and to constantly be calibrating and updating your beliefs as you get new information, and it's kind of the most open-minded way.

**Annie Duke:** 00:57:21 But that's not what we think winning is. I think about what's happening in terms of what you said of you have these people on television, and they're expressing these opinions and they're just framing it as an argument, not as a discussion and they're declaring things with certainty. What I really wonder, and I had

this discussion with Julia Galef, is it because that's what the consumer demands or is it because those people just really believe that they're certain?

**Annie Duke:** 00:57:50 That's what I really wonder, because I think about how horrible it is in politics to be considered a flip-flopper, which I think is a wonderful thing. I think when you really reverse a position, that's the time to most celebrate because that's where you know ... Like let's say that I believe the Earth was flat. Then I get all of these stuff and I learn all these things, and now I believe it's round. I have now gone from a very inaccurate opinion to one that's quite accurate, and so, obviously, all of my decisions going forward that have any relationship to needing to know that about the Earth are going to be better for it.

**Annie Duke:** 00:58:26 When people do what's called flip-flopping, where they have a full on reversal of an opinion, I think that we should be celebrating that because, oh gosh, think about how much better off that person is if they've moved from inaccurate to accurate. But yet when politicians do it, what do we say? It's an insult. Now the pundits are certainly taking cues from that. The pundits don't want to be seen as flip-flopping. They're not on that panel with Anderson Cooper or Sean Hannity or Rachel Maddow or whoever to give some waffly ... That's another one, that we say "waffling", to give some sort of waffly, moderated, thoughtful opinion, "Well, I think I'm 60% ... " People will be like, "Give your opinion, buddy."

**Annie Duke:** 00:59:07 I just don't know. I don't know how much is that that we're trained that saying 'I don't know' is bad, that flip-flopping is bad, that waffling is bad, that hedging is bad versus how much of those people really believe that they're certain. I suspect it's the former more than the latter.

**Demetri Kofinas:** 00:59:27 That's interesting. I wonder about that, too. I would like to think that, on some level, they know that they're uncertain and that scares them and that comes across. I think it's also interesting what you say, though, because I think, in some sense, there's a complex dance. You'd mentioned 9/11. Think about 9/11, the reaction to 9/11, to the terrorist attacks, and the way in which we needed certainty. We needed to have an enemy, we needed to have a narrative. Everything needed to be constructed just so.

**Annie Duke:** 00:59:56 Black and white.

**Demetri Kofinas:** 00:59:57 That's detrimental. Imagine all the potential mistakes that we made after 9/11 and everything that happened since. How

could we have made better decisions if we were able to be more constructive and more objective with our thinking? I mean it's a tall order to do that as a society, but I think what your book does is it gives some good science and a road back for trying to implement it in your own life, which I think is doable.

**Demetri Kofinas:** 01:00:22 I think there's one other thing I want to mention, which we didn't talk about, which is the importance of surrounding yourself with people who can give you good feedback. I think that's essential, whether that's in marriage or whether it's a business partnership. Having honest feedback is crucial from people that can step outside and give you that criticism. I think that's really important and, of course, how you deliver that criticism so that you're open to them. Annie, I want to thank you so much for coming on to the show.

**Annie Duke:** 01:00:44 Thank you.

**Demetri Kofinas:** 01:00:44 It was a pleasure.

**Annie Duke:** 01:00:45 Thank you. This went into really interesting places. I really enjoyed it.

**Demetri Kofinas:** 01:00:49 Thank you.

**Annie Duke:** 01:00:50 Thank you.

**Demetri Kofinas:** 01:00:50 That was my episode with Annie Duke. I want to thank Annie for being on the program. Today's episode was produced by me and edited by Stylianos Nicolaou. For more episodes, you can check out our website at [hiddenforces.io](http://hiddenforces.io). Follow us on Twitter, Facebook, and Instagram at [HiddenForcesPod](https://www.instagram.com/HiddenForcesPod), or send me an email. Thanks for listening. We'll see you next week.