PMPOV094 - Cognitive Behavior

0:00:05.4 Announcer: From the Washington, DC chapter of the Project Management Institute, this is PM Point of View, the podcast that looks at project management from all the angles.

0:00:13.5 Kendall Lott: Happy depths of winter PMs, as promised, we continue with our stream of elevating the conversation episodes, here on PM Point of View. My wandering way is temporarily over, but I'm always open to an invite to come and meet a guest in person. I am back home outside the DC area beltway, with our co-host warmed with the fires of client delivery, Mike Hannan. Welcome, Mike.

0:00:39.9 Mike Hannan: And I actually am wondering now I'm out in Salt Lake City.

0:00:44.2 KL: And you've been engaging with clients, which is good. So, we do keep fresh on the actual problems and opportunities we see.

0:00:49.5 MH: Try.

0:00:52.3 KL: Well, that was a great answer. Yes, no, and try. Good. I'd better learn to be a better interviewer. Hey, listen, what's top of mind for you right now? Anything popping out in the world of PM or management for you?

0:01:04.6 MH: Honestly, it's this podcast. Before I was introduced to Josh Ramirez, who you'll introduce in a sec, and sort of the thinking behind what he's going to share with us today, I've only given sort of scant thought to a lot of what he's going to share, and it's kind of forced me to kind of rethink some things, so I think this is going to be a really... Sort of, we're all going to be learning live, kind of episode.

0:01:24.3 KL: Yeah, well, I like the point about rethinking things and that's kind of what we're about, I keep wrestling with some of it too, as I've reflected on some of our scoping sessions. So, today's blab-fest PMs is one of my own choosing, as listeners you may know from checking the podcast feed that I'm interested in, psychology generally, psychology of PMs, psychology of managers and even of groups, the so-called organizational psychology, you'll see that in the feed. Today we have a discussion on cognitive behavior and project management with a returning guest, Josh Ramirez, founder and CEO of the Institute for Neuro and Behavioral Project Management. Welcome, Josh, how are you?

0:02:02.4 Josh Ramirez: Awesome, and thanks for having me on the podcast.

0:02:05.9 KL: Round two, plus, you've given me some guests before. Reason is, we like guests who give us guests.

0:02:10.6 JR: Dr. Shari De Baets. She's amazing.

0:02:12.5 KL: Yep. And a co-author, as I saw. So, Josh is in with the plan, the NeuralPlan, to be specific. So, Josh, tell us briefly, what's your background? What is the institute? And what is the NeuralPlan?

0:02:26.7 JR: So, background, if I can make it short, I've spent a couple... About a decade and a half in the Department of Energy Complex, mostly mega projects, large projects, environmental projects that type of deal. A lot of time in project controls, and over the last six years, I guess it's been, now almost six years, completed my research, which combined behavioral science with project management, for my PhD, dissertation title was Toward a Theory of Behavioral Project Management.

0:03:04.6 KL: I find that interesting, cause that's toward a theory that it wasn't even established yet. So, you're fairly cutting edge with this stuff, I'd assume, your early days?

0:03:11.3 JR: Yes, definitely early days. And so, we have over the last few years, also established the Institute for Neuro and Behavioral Project Management, and then from there, for the last three years, we have been writing and completed, NeuralPlan, which is behavioral science specifically applied to project planning, forecasting and risk. So, if you think of... If you've ever read the book, Freakonomics or ever heard of the term behavioral economics. For example, this is essentially what... We're doing for project management, what Thaler and Kahneman did for economics, and that is bringing in behavioral science into a technical discipline to redesign it essentially around human cognition.

0:04:03.9 MH: And I love that, by the way, Josh, because the heritage of project management, or least modern project management as we know it, since the 1950s or thereabouts, it was essentially driven by engineers, and it was essentially making a lot of assumptions about... We could just have all these work streams estimated and planned and all merging just like sort of a perfect confluence to yield this desired result, almost like building an assembly line. And there was a heavy emphasis on the physical sciences, if you will. And again, sort of engineering mindset, and I don't think there's as much human behavioral science. Really, I don't know if there was any. [chuckle]

0:04:47.3 JR: Well, and just a quick note on that too, most project management methods don't even use science or have not used evidence-based methods yet, they're mostly just practitioner models, and that's obviously because they didn't have a lot of scientific studies on project management when project management was first created. So, there's some justification there obviously, but, yeah, so behavioral science is new to the field, and just to clarify, because there seems to be often times a stereotype, or shall we say frame of reference, when people hear the word behavioral, they tend to kind of put it in the category of emotional intelligence or leadership or good communication, that includes those things. But we're talking about really the brain and cognition and every aspect of it, from thinking errors, through all of the elements that I mentioned before.

0:05:42.1 KL: Yeah, I saw in your plan, you actually spend some time on neuroscience itself, literally some pictures of the human brain and what parts of the lobes are all working for us. And I think that's underlying part of what you're saying is, is that... Part of this is how we're wired, right?

0:05:57.2 MH: Yes, and it is not unique to one personality or the other, it's not unique to... Cultures or anything like that, it's essentially thinking errors, for example, or cognitive biases are systematic and common in all humans.

0:06:19.8 KL: Yep, and one of the things I like to tip us off in that is your purpose of the NeuralPlan itself, people can read it if they want to go and hit your institute. We'll talk a little bit about that later, but that our temporary endeavors that are being created are projects. We kind of go with that in part, right? And then any of these endeavors, all these projects rely on two parts, a reliable prediction of the completed endeavor, the plan. In my world, I call it PMs are future seers, right? They have to bring order out of the world of chaos, right? So, a reliable prediction of the completed endeavor and then punch line number two, an effective delivery of that predicted outcome.

0:07:00.8 JR: Yes.

0:07:00.9 KL: So, it's one thing to guesstimate or plan or predict, forecast, all those words we're gonna use here and get clarity on, and it's another one then to be able to organize human endeavor, human labor to get that, right? Human interactions to get that outcome. So, you're not messing around right at the beginning of the plan and you're like, look, both things are like this, it's got these two elements, and I think your punch line is something along the lines, we can't really count on our brains to tell us exactly what we think we're seeing there or something, what's the point of the cognitive approach to this?

0:07:33.9 JR: Well, first, well, we have to recognize that even if you look at behavioral economics, for example, behavioral economics, when they applied behavioral science to the traditional or technical discipline of economics, what we found in research was that it essentially up-ended the entire technical discipline of economics, because what it did, is it formally recognized through study that human beings are not as rational and straightforward as we think we are, or we'd like to think we are. We all tend to think that, well, I'm the unique and I'm the one exception, right? But unfortunately, there's a lot of different aspects of the brain that keep us from thinking purely rational. And so, let's take time pressure, for example, time pressure physically changes the brain in the striatum, at the base of your brain. And what it does is it turns off... Time pressure turns off the inhibition system and causes us to make faster and premature decisions.

0:08:40.0 JR: And if you think about project management, we are defined by the time constraint. The time constraint is what separates us from operation. So that time constraint is actually changing cognition. So, project management is unique in that way, and that we tend to do more automatic thinking when we're under a time constraint. And therefore, we rely on heuristics and we rely on cognitive biases in order to make those decisions. And so that changes prediction, and everything we do in projects. Well, not everything, but a lot of what we do in projects is prediction base. If you think about planning, if you think about forecasting on a weekly basis after execution has begun, anything that's risk-based, probability-based, anytime we're looking into the future, we're doing some kind of prediction, and the brain is just not very good at that. 50%, half of all projects failed at cost and schedule objective, that's nothing to really cough at. I mean, that's fairly significant, and we do in the order of a little over $15 to $20 trillion a year in projects globally, and 70% of project performance comes from human factors, so it's significant.

0:10:01.8 MH: So, Josh, let me take everything you just said and offer a yes, but, and get your take on this. [chuckle] So everything you said makes complete sense to me, and there's things you've thought about for years that I might have only pondered a little bit maybe since meeting you mostly, but even this notion that Kendall started saying, we're supposed to bring order out of chaos, what if

the leadership of an organization could set up an environment that's not chaotic? And even when there aren't actual due dates, as some projects, if we deliver it sooner, it's better than if we deliver it later, but it's not like if you deliver it after December 1st, we've lost all the value of having delivered before December 1st. And so, if we have a number of projects that are just follow the sooner is better, but no particular due date that drives any value sensitivity.

0:10:52.3 MH: And we have a stable system set up without putting time pressure on people just saying, sooner is better, let's just get a rhythm going here, let's complete as many projects as we can at the sort of highest cadence of value delivery we can without sacrificing quality or stressing anyone out or burning anyone out or take any shortcuts at all, and just ask everyone to do their level best and take advantage of, I guess, the tribal aspects of human beings that we like being part of a winning team and we like helping each other, and we like it when one little mistake doesn't sink us, we can recover and learn from it and keep going then and have the backs of our organization and all that good stuff. So, what would you say to all that?

0:11:36.3 JR: Well, my first question is, is do all the humans on your team have brains?

0:11:42.0 MH: Yes.

[laughter]

0:11:43.8 JR: Okay.

[laughter]

0:11:45.5 MH: But brains without time pressure, that's, I guess the crux of my question. Free to execute, maybe deliver value.

0:11:49.8 JR: Okay, so you're still... So, we... Yeah, regardless of whether we have time pressure, we're still in system one, the automatic mode, 95% of the day, regardless of time pressure. So, system one is the automatic system in your brain and essentially if anyone's read the book, Thinking Fast and Slow, it goes more into depth into that. But system one causes us to make automatic decisions without thinking through them, exposes us to more risk, we have more thinking errors, etcetera. So, if that is higher under time pressure and not as high under lower time pressure, however, we're still... We still rely on that mode, 95% of the day. So even if you reduce the time pressure, you're still going to have the issue and...

0:12:44.3 MH: 95%.

[chuckle]

0:12:46.0 JR: Yeah, right. And so... So, heuristics and biases are going to be especially prevalent under time pressure, but even if you don't have time pressure, you still have the brain seeing, potentially seeing the wrong information from framing, not having the energy to find the right information due to decision fatigue. The brain changing information to the way it wants to see it based on social pressure or trying to conform, under-processing information based on a high cognitive load, for example, we may fear certain information from low psychological safety, and so...

0:13:26.7 JR: These are just a few examples. So, take away the time pressure, you still have all the other issues that... The time pressure, what it does is...

0:13:33.4 MH: I like where we're going with this, because...

0:13:35.5 JR: But the time pressure...

0:13:35.7 MH: Sorry. Go ahead.

0:13:35.8 JR: Oh, go ahead. I was just going to say the time pressure becomes like a moderator of those things, and so it's like a filter, right. So, if you're pouring in data through this time pressure filter, all of those other things are going to be increasing in orders of magnitude.

0:13:52.3 MH: So, this is getting more interesting to me now because it seems like the last three or four years in particular, lots of interesting research and books that actually make real good sense have come out on psychological safety and how to provide it, how to provide more of it. And this notion of, that's your deadline, you better deliver or else that's sort of the opposite of psychological safety, but this notion of, hey, we've created an environment for you to succeed here, we've given you freedom to experiment even when those experiments fail. Maybe we can't eliminate all... What's the opposite of psychological safety, psychological risk? Maybe we can't provide a 100% safety, but it seems like, again, for the leaders that understand how to create high-performing environments, we can take away a lot of the time pressure, perhaps we can provide a lot more psychological safety, and there's probably a half dozen other things we could do, and I imagine that's where you're going to lead us in this discussion today?

0:14:54.2 JR: Oh yeah.

0:14:55.0 MH: There's... What can we do about it?

0:14:57.3 JR: Yeah, there's lots of things we can start doing about it. Yep.

0:15:00.3 KL: Well, let me lay down a little bit more of the framing for ourselves, what I understood your argument to be is, is that there is an element, people have brains, therefore, this is happening and there's science behind this, this is actually at a physical level, and then that drives how we set up for our cognition, how we choose to act, behave and think, well or think, which leads to the other problems. Mike, I liked your point about, what if we actually had really good organizations that we were really set up to be effective, also as you were going through your list, I was like, Yes, please show me that organization that would be beautiful, or as Hemingway said, "Wouldn't it be pretty to think so?"

0:15:38.1 MH: It's how I make a living helping organizations get to that.

0:15:41.2 KL: Well, getting towards it.

0:15:42.1 MH: Yeah, nobody ever get there, right. Cause we are all humans, we all have challenges.

0:15:43.2 KL: Yeah. Okay. Listen we... So maybe it does improve. But what I was looking at were the moderators that you were talking about, Josh, and your premise seems to be, this is going to happen, and so there's some things we can do in our PM cycle to solve that. And I do want to get into that in a second, but you did list the nine moderators that you flag in your NeuralPlan, and I was looking at those and what of them is the heuristics. I want to come back to that. The mental shortcuts, Mike. Cause I was pondering what you were arguing earlier when I heard you make this argument, heuristics don't need time pressure and a lack of chaos to be a problem, things like optimism bias, recency bias. You're human, that happens without time pressure, now you have to be aware of it, you have to think it through in the same way that Josh said to you, do your people have brains, I want to say, are they on a team that involves groups of people, kind of definitionally, yes.

0:16:35.5 KL: Well, I'm here to tell you as soon as you put people in aggregation, there's a shift, you want there to be a shift in how people relate and begin to work with each other, there's inherent social pressure in there, now that's not strictly a cognitive bias, but to the extent that you have that it opens the door for these other heuristics. So, I want to link to why we think there's still a problem. Josh, you talked about project management and how it's been framed in the past, and as a PM set of tools, we have the PMBOK doesn't the PMBOK say this 90% of its communication, which we learn how to talk to our peers and the rest of its planning, so why aren't we solving this problem? Where does awareness...

0:17:12.3 JR: Yeah, awareness is one way of mitigating or reducing thinking errors, by the way, but we'll get into that a little bit later. It's anything that has to do with thinking, I think. And there's a lot of things that happen in the execution phase that are not as highly cognitive as the planning phase, for example, because the planning phase... If you think about the planning phase, it is very cognitive-based and we haven't really put as a much attention onto that and don't have the awareness of that and appreciation that we probably should, because if you think about planning, planning is an effort that happens in the brain prior to it ever reaching a spreadsheet, a schedule, a scope statement, etcetera, because the unique thing about projects is projects are unique endeavors for the most part, and even if they aren't unique, we're creating something that still doesn't... It doesn't exist yet.

0:18:19.5 JR: So, let's say you even build 10 houses and all of them are the same... Yeah, you've done the one plan over and over again, but house number 10 still isn't built, so when you plan house number 10, you're still planning something that doesn't exist in physical space. So projects and planning are very much a highly cognitive effort because you have to imagine and you have to think through something that doesn't yet exist, you cannot put it in front of you and say, this project is already created, cause you're about to go create it, so when you're planning, everything is going through cognitive processing, and so when I say anything to do with looking forward, because looking forward is facing something that doesn't yet exist and anything to do with risk, because risk is a probability-based, it may or may not occur. So planning, forecasting, risk, looking forward, those things tend to be more cognitive, heavy-duty cognitive processing than, for example, dealing with an event that's happening right now, during execution phase.

0:19:30.6 KL: So, let's grant that that's true. So that's cool. And we now know we have science that says cognitive biases are happening, twists are happening, what we think we're getting and what we get out of a decision are not the same in our own brains, and that the planning cycle is highly cognitive. So, what is it that we observe or what is the... What is your concern or prediction or observation that PMs trip up over in that phase?

0:19:54.2 JR: Well, so...

0:19:55.3 KL: Let's be specific.

0:19:55.5 JR: I'm going to preface this by saying, it depends on are we planning someone else's work, or are we planning our own.

0:20:02.2 KL: That's interesting. Why does that matter?

0:20:05.3 JR: So, if we are planning our own work, we tend to be more rosy lens optimistic, everything is going to work out. If not, even if we don't actually believe it's going to be as rosy, we will still pretend it is as rosy as we can possibly imagine it to be, because it is our work.

0:20:23.2 MH: The happy path.

0:20:24.6 JR: Yeah. Me building my pool out here, I am going to be very optimistic about my pool, because it's in my backyard. But if I go and plan someone else's pool, I may not be optimistic and I may see more risk. So, the caveat is, are we planning our own work or are we planning someone else's work, or is there some kind of incentive attached to planning someone else's work that is attached to us? So, these filters, these kind of filters of who the work belongs to, whether the work is attached to us personally can change how we process the information. And so, for example, things like deliver ignorance and optimism bias may be highly prevalent in our own work, and things like strategic misrepresentation and things like that may be present in when we're dealing with planning someone else's work, for example.

0:21:20.8 MH: Wait, when you say strategic misrepresentation, is that a nice way of saying, setting someone else up to fail?

0:21:27.7 JR: It's really... truth be told, it's basically lying.

0:21:31.9 MH: Yeah. It's kind of where I'm going here. [chuckle]

0:21:33.4 JR: When you're putting together an estimate. Yeah.

0:21:35.7 KL: Now, it's not strictly a cognitive bias. There's actually some paper on this, that that's more of a political bias which happens. And what's interesting is that you see the interplay between those two when that happens, and there's a set-up, there's a cascade that happens once you run into that problem. But continuing on. So, we're... There we're planning, there we are. So, as we're trying to plan schedules or estimates when things happen, what we're seeing is more optimism than we might need.

0:22:01.8 JR: The other big thing is that what we see a lot of times in projects are underperforming projects, which usually means they were optimistic. However, optimistic does not equal optimism bias. And that is one thing that we get kind of mixed up a lot. It's an optimistic output, but it doesn't necessarily mean that optimism bias was present. Could have been strategic misrepresentation, which is associated with social pressure, but... And it could have been optimism bias. But in many cases, it could be a lack of information, it could be that we're under too high a cognitive load, so

we're not seeing all the things that we should, that we're under high decision fatigue. It could be that we're misinformed by heuristics. And so, a lot of optimistic projects are not necessarily due to optimism bias. They're due to a lack of things that would have caused realistic planning.

0:23:02.7 MH: And I think when we spoke last week, earlier this week, Josh, you had said, one of those things is... I forget what you called it, but something about going through obstacles or experiencing obstacles that are similar to the ones you might on the project, and that helps you level-set a bit and remove some of that bias.

0:23:18.4 JR: Yeah. That's one of the solutions, is obstacle identification. So, they found that, in a behavioral study, Dr. Buehler from Canada did... has done a lot of research and studying on behavioral application to planning specifically. And he found that if you asked to identify obstacles prior to estimating the duration of the activity, the duration of the activity ended up being more realistic than optimistic. And so, there are certain things that you can do that really put more realism into your prediction. So, your plans, your forecasts, your risks. And some of these tweaks are basically sometimes just how you ask a question, for example.

0:24:00.9 MH: Interesting.

0:24:01.4 KL: Well, take us down that path. How would you improve that one?

0:24:03.3 JR: The obstacle?

0:24:04.5 KL: What would be the execution? Yeah.

0:24:07.1 JR: So, the execution in... For the obstacle identification, that one's very simple. I basically just stated. Prior to estimating your quantities of anything that's going to determine the output of that activity in terms of length of time or quantity of resources, identify the obstacles that are associated with that activity, but it has to be prior to making the estimate. You don't go after, you don't say, oh, this activity is going to take ten days, and then go back and say, well, should we identify the obstacles associated with that? No. You've just... you bypassed it. You missed the mark. A lot of solutions in what we call behavioral project planning or planning based on behavioral science is a lot of the solutions are based in getting the sequence right because of the way the brain works. And a quick aside on obstacle identification. I often get the question, why not just identify risk? Because we're already doing that. So why are you going to add this, go identify obstacles?

0:25:09.2 MH: I was actually thinking that. [chuckle]

0:25:11.6 JR: Yeah. And most people do. And there's a very simple answer to that. Risk is something that may or may not occur. It's a bad thing in many cases, or an opportunity. But risk is something that may or may not occur. An obstacle will occur. If you think about an obstacle course, you have to get over the obstacles in order to get to the milestone. And the risk may be, well, you've fallen, bump your knee or something, you need a band aid. So, the problem is is that risk identification changes cognition, because if I ask you, Will something go wrong on your project? What's the risk of failing? Because risk and something going wrong on your project is going to induce cognitive dissonance in you and make you potentially uncomfortable. It may or may not, but in many cases it does.

0:26:04.1 JR: You may say, well, yeah, that's a risk, but I think we're probably going to be okay, so we scratch it from the risk register, or we sign... assign a low probability to it, or we don't put in a mitigating strategy. The difference with an obstacle is when I ask you about obstacle, I'm asking you which things will occur, and you don't have an out, right? So, I have to get over this obstacle to get to the milestone. It's not as threatening as the risk is, and so... and the other thing too, is you can also go forward and identify activities that may represent those obstacles if you feel they're... It's necessary. And so, the difference between a risk and an obstacle is so large, because if I ask about the obstacle, it's safer, and it's something that will occur. If I ask about a risk, I'm potentially introducing some cognitive dissonance, and you may reject that, kind of put the blinders on, say, oh, it's not going to happen to me. And then it doesn't get counted, it doesn't get mitigated. And so, there's some big differences there.

0:27:05.4 KL: Give us another example of a sequencing thing, I'm intrigued by this sequencing question you've said. You said so much of it is about sequencing. Because that's what we do, right? We get a team ready, and it's going to go through the milestones about a project, which itself then creates milestones. There's this process, process is sequence. What else? I'm fascinated by slapping those obstacles in front. What else you got on sequencing?

0:27:28.6 JR: So, the anchoring effect is when we see or hear a number for example, we become anchored to that number. So, if let's say I walk into the planning room, the War Room, I call it, we used to call it the War Room. Walk into the War Room to do a planning session, and you lay down a bunch of activities, and you say, well, this one's going to take 10 days, five days and five days. Now, if I go and try to go back and say, well, how long do we really think it's going to take? Your brain is anchored to that 10, five and five already. And so, what they've done is they've found that in experiments, even when they ask people in advance or tell them in advance that they're about to be anchored, they still couldn't mitigate the anchoring effect. And so, it's best to avoid anchors altogether, in which case the sequence becomes important in that when you create the plan, you create it in such a way that there are no anchors laid out in advance.

0:28:22.4 JR: And so, for example I would bring in any kind of quality impacts and determine quality impacts before I would ever estimate a duration. Because if I estimate the duration and then go back to change, look at the quality parameters, my brain is going to want to stick with what I already have versus once I put the quality inputs in, it may change the estimate. So, the whole sequence, risk should always be done prior to estimating any types of durations or quantities of resources. Why? Because something could change once we start looking at risk. And so, a lot of times risk is an afterthought, and we're like, well, we've done the plan, but oh, we probably should do some risk analysis and add it to the risk register before we close it up. No, no, no, no, no, no, do your risk prior to any kind of predictions of quantities and... Resource quantities in time.

0:29:16.9 MH: So, Josh, a lot of what I've heard you talk about is the problem of the over optimistic PM, whether that optimism bias or not having gone through the obstacle exercise or what have you. But I imagine you've seen the opposite, where especially those of us who are grizzled enough and been around long enough and felt the punishments enough times from missing dates and stuff, that we are the opposite, where we put in... We sandbag so much. And I know that has a negative connotation, but I like to say we build protection against our professional reputation being harmed. We're being responsible professionals who want to deliver on our commitments. And in order to do so reliably, which is what you all seem to want me to do, I'm going to give you a sandbagged estimate. But if I were to take that away and provide the psychological safety, for

example, and just say, Go. And in fact, no, let's not just even say go, let's say, This is your only focus, so right away, we've completely deloaded the entire system, so there...

0:30:18.6 MH: You don't have to juggle three tasks, you don't have a tough choice to make on which stakeholder to disappoint and which one to please, this is your only priority right now, everything you said you needed to get it done right the first time, we've worked with you to make sure you have that in advance. So, we've done everything we can to protect your focus. Like... Sort of like to protect a school teacher's focus, we have a front office taking calls from angry parents, those calls from angry parents will never go to the classroom. But we don't really have those mechanisms in most organizations. It's not advanced management science, every well-run school has done it probably for centuries. But we can do those things and then just say, Go. Let's just see how fast this can be once you have everything you need to get it right the first time, complete focus, protection from distraction and then back stopping if something goes wrong or some impediment pops up, and you need us to help you remove it or something like that. What would you say about teams that are always planning things to take five times longer than they really could, if we just gave them that right environment to just execute with a good flow?

0:31:27.6 JR: So, I've seen pessimistic plans before, obviously, I think we all have. It's... but the... So, the next question is, is in a pessimistic plan, when you sandbag it, why do we continue to have underperforming project?

0:31:44.2 MH: Aha, you're getting to one of my favorite topics, cause even when we have, "more realistic estimates," we still miss them.

0:31:50.4 JR: So, I think there's an answer in here though. Because let's take unpacking for example, which is another found in behavioral studies that if you unpack your activity into smaller pieces to reveal what those smaller components are, then the estimate becomes more realistic. And many of the pessimistic plans that I've seen, there wasn't a lot of unpacking that occurred. It was not like we went through all of these exercises and from that became a sandbagged plan. Typically, it's an average plan, like most plans are. And then we add the sandbags to it. Now, here's what occurs. If you're doing obstacle identification and if you're doing unpacking and if you're creating an estimate in the correct way, I.e., Quantifying your effort and then dividing that over the available resource quantity by day, for example, you're going to come up with a more realistic estimate that also includes reducing pessimism. Why?

0:32:51.2 JR: Because when we say, Oh, here's a 50-day activity. Now, let's go add 20 days because of... I don't want it to come in late. You didn't identify more risk by adding 20 days. You didn't identify more obstacles by adding 20 days. You didn't reveal what shortcuts may be in the plan by adding 20 days. You just added 20 days. And so, the problem with bad planning in general, is that by not uncovering all these things, we can create a pessimistic plan. Because we just lump something at the end of it. But if we're doing planning correctly and using a lot of these methods as well, it's going to reveal the reality of the situation in such a way that there's some places where pessimism can't hide.

0:33:41.1 MH: Okay, that makes sense to me. But what about just the situation that we've got a finely tuned engine. Everything is flowing five times faster than anyone ever thought possible. So, we've had to completely recalibrate our estimates. Because we've actually... We basically cleared the traffic jam. And we're going at full highway speed. And in fact, we even upgraded to some race cars and stopped riding our bicycles, and all the things that we thought was part of our reality.

Suddenly, we're set up to go much faster. Right? And we're even given driving lessons, before we only knew how to ride a bicycle. [chuckle] And so everything we've done to upgrade the system to promote speed and flow is there. But of course, there's still variability. Where we're talking about the future, we're talking about... No estimate is designed to... In fact, every team that's ever hit their estimates with just a task level estimate or a sprint level estimate, reliably every time is building in safety. Because the real world has normal variation. So, what would you say to the need to accommodate the fact that normal variation exists?

0:34:49.5 JR: Well, I think there's always room for improvement. But I think what you're explaining is a team that has it pretty much well-tuned. Is that what I'm hearing?

0:35:00.3 MH: Yeah. So, if we... I think a lot of times what I've run into is the fallacy that we can estimate perfectly even when we have this excellent fast-running system. And we forget that sometimes just stuff happens.

0:35:14.1 JR: I think by being aware of our own thinking errors, what we do is we reduce the possibility... Well, we reduce the margins of error that occur or will occur. Because even with the most perfect planning system, we'll never get a perfect plan.

0:35:29.8 MH: Yeah, people get sick. People have bad days.

0:35:32.3 JR: Yeah, things happen.

0:35:33.9 KL: Covid happens.

0:35:34.9 JR: Covid happens.

0:35:35.9 MH: Usually when I could do the behind the back pass with perfect synchronicity and somehow this week we're just out of sync.

0:35:41.4 JR: Right. And so, I would say, if your organization is only 15% off right now, what kind of margins could you get if you changed that to 5%? Because I guarantee you that most of us and most of our organizations do not have the level of cognitive awareness in terms of the available science that's out there, just because the project management discipline as it stands right now, has not been utilizing this data. And it's been available for a couple of decades now. And so there's so much out there that we could be using to improve the reliability of our projects. And we're just now scratching the surface. And so even if you have it down already, I would say there's probably another 10% or 15% you could add.

0:36:33.3 MH: So, the point is, there's still a variation. And it's normal, prudent responsible behavior to build in a little extra buffer when, you know... Just because you know that sometimes things happen. So, it's not the sandbagging. It's just sort of the in order... Because things are variable, we have to... and we want to be reliable, we have to have some way to absorb the variability.

0:36:56.3 JR: I would agree, by the way. I think you always need a little bit of safety net. I think that's just wise planning...

0:37:05.4 KL: I'm going to lean in here with a little bit on this.

0:37:05.4 JR: Okay.

0:37:07.8 KL: From what I was reading in your plan, what I was reading in, again, some of the curated information that your institute passes around, so I do want to make sure we get to that. Cause I've enjoyed being in that space and want to get that out to our listeners to understand. But, Mike, I think I have a way of integrating at least a part of this in my brain. And I like where Josh is coming from this, and how you challenged it in the following way. No management science really should ever claim it has the one answer pinning down everything. And there's a reason, not because we're also... We're error-prone ourselves and we can be wrong. But it's simply this. There is a range of bad project planning that is happening out there relative to what happens in execution. I think what I'm hearing here is that one of the layers is, we are often wrong, if I understood correctly. We are often wrong. We're twisted. We're confused in what we end up doing sometimes. And what's insidious about it, and this is what turned me on to it a couple of years ago when I reached out to Josh the first time and listening to Freakonomics is, we are not aware often when we're wrong about what we interpreted, what we saw, what we interpreted or what we think our own behavior response is. So, I want to grant that there is variation.

0:38:20.0 KL: But that some variation is driven by us. And what's interesting about this topic is we don't even know it. One of the things that I'm reading is... I read through yours and I invite other PMs to go through it, cause we can't go through all the different heuristics that are happening. But frankly, the more mature, senior, seasoned we become in this, we are taking shortcuts that allow us to produce faster. But we are actually introducing forms of bias that are all over here. And there's real study on the more senior and the more confident you get, the actual farther variation you will have when there's a perturbation in the system.

0:38:54.2 JR: Yeah, so along...

0:38:54.5 KL: Because you're so sure you're not wrong. [chuckle]

0:38:56.8 JR: Right. Right. So, along that same line with experience and also talking about what you were saying about we don't have the awareness of our errors, we did a small informal study that I did over... It was about two months' time, and what I did is I looked at a series of projects and followed them through seven samples or seven different weekly forecast updates, and I listened to the project managers come to the meeting every week and they would explain what went wrong during execution that caused them to get delayed, so this group of projects, by the way, averaged 42% optimistic from week to week in their weekly forecasting. And so, I wanted to know one key thing, because the PMs would always say, and you hear this a lot, well, during execution, that subcontractor didn't show up, the resources weren't available, they mention all these things that are happening right now during delivery, it's not a reference to the plan, because remember the milestone is created out of those two things, you predict what you're going to deliver and then deliver on your prediction. But the problem is, is that we hyper-focus on what happened during execution that caused the milestone to go awry.

0:40:20.7 JR: So, I wanted to know from these PMs cause they were always bringing up things that happen during execution, and so I went and did the sample of these projects and found that of the 42% optimistic forecast that they were averaging 65% of the issues the PMs brought up, were

actually predictable. Which means... So, for example, we showed up and we were going to dig this ditch, but someone else was already in the ditch, and we couldn't dig, but it had been on the schedule for two months, the resources weren't available, but there were other... But we knew if we had looked at the calendar that the resource wouldn't be available that week, but we didn't look at the calendar, right. So, 65% of the 42% optimistic was all due to bad predictions, but if on the surface... And this is where the awareness comes in. We often aren't unless we actually go dig and look. On the surface, it looked like it was all issues that happened during the execution phase, and that good planning and forecasting wouldn't have fixed the issue, when in fact, 65% of the issues were predictable.

0:41:26.0 MH: So, let me hone in right there and actually encourage our listeners to really absorb this one, okay, right, because this whole notion that you know... well, admittedly, a lot of the descriptions I've given of the smoothly flowing, very fast, reliable environment, they're hard to build and maintain. There's no question about it. They do exist and I've helped build some. But the reality is most organizations are far from that, there is some... At least some amount of chaos, there's almost always a heavy amount of overload right, emphasis on keeping people busy versus actually driving flow. And because of that, estimates are bound to be off, even if you could get rid of all of the biases you're talking about Josh, it's just such an inherently unstable environment, it's almost impossible. And so, the conclusion that I think a lot of people draw, and I think the Agile world is particularly guilty of this, and in fact, they're almost proudly, they almost proudly subscribed to what I consider a false notion that planning is a waste of time, and all you can really do is plan for the next sprint in front of you, and maybe you know, you could do sort of, some sort of longer-term road mapping, but that's just sort of a cartoon on a PowerPoint really.

0:42:46.2 MH: And so, let's just look at the things that are right in front of us, the work immediately at hand, and do our best trying to commit to executing that with some focus and flow, and I think you pointed out, Josh, that... like you said, so many of those things were absolutely foreseeable, somebody in the organization, maybe many people in the organization already knew that that resource would not be available in three weeks or whatever it is, right. We have ways to show all this like you said it's been in the plan for two months [laughter]

0:43:16.0 JR: Right.

0:43:16.6 MH: And so, I think this notion that, well, what's the point? Let's just give up. Planning is a waste of time is I think one of the biggest problems in project management today. Curious what you think.

0:43:25.9 JR: I 100% agree, and I'll add something to that. What do we think happened when all those resources showed up to do that job, and they could not do the job, there was waste because they had to be reassigned, they had to go to a different project if there was another project scheduled for the day. So, they probably ended up paying six hours times eight guys at $50 an hour to stand around and wait for the next project because the project that they showed up to was not available or they couldn't start.

0:43:58.4 MH: Happens all of the time.

0:43:58.6 JR: And so that's... what is that? Six times eight times 50, that's waste, now if you... Any time you take a project like that and you say, well, planning isn't important or that predictions and

forecasts aren't important cause the schedule is going to be what the schedule is going to be and it's going to cost what it's going to cost, in the end there is an absolute resounding, no, because good planning, you're actually reducing risk and reducing obstacles and aligning resources into time frames so that they can perform efficiently. It's like doing wedding planning, we would say, well, just everyone show up and hopefully the DJ will be there. Well, you're going to have a very, very angry bride when it comes time to have the wedding day. I love weddings because they're a perfect example. You have to have everything on cue.

0:44:46.8 MH: The due day matters.

0:44:48.6 JR: The due day matters, and if we put that kind of effort into our projects and we are open to clearing our thinking and reducing our thinking errors in a way that allowed that we actually get higher performing projects to actually cost less. Good planning costs less to perform.

0:45:08.3 KL: I want to lean in on some of this here too, with a quick plug, one of my very first podcast, go look it up, was with the Wedding Planner Association. The President of the Wedding Planner Association, she's brilliant at it. And that is a timeline that cannot move and it doesn't matter what you think is going on, and that... yes, they do get rain and things happen, and yet the timing cannot move, and so it's an interesting project scenario where scope can change, quality shouldn't change, but schedule cannot change, period.

0:45:36.7 JR: Cannot change, got you.

0:45:39.5 KL: So, it's an intriguing way to see the world, and I invite people to go listen to that. That was a shorter one. I want to slightly change this because of something else that we've been doing in the podcast here, we're talking about planning at the project level, and maybe with that team. I was intrigued again by some of the reading that some of the information you have flowing through your website over there, your institute, and take this back over to Mike for a second. One of the other problems is how the set or portfolio of projects, the decisions that leaders make about go, no-go, based on this planning. So where I'm going with this is this, Mike and I've talked a lot about planning as trying to get to understanding where your estimations are so that you could drive higher value, not just cost reduction, but understanding actually at this point in the plan, if we planned for more resources or planned for a different risk mitigation, we could actually possibly get more value, and it's the value of projects that we actually care about, not the accuracy of cost predictions or length prediction, it is actually the net. It's net, it's profit baby.

0:46:42.5 KL: It's how much goodness we're getting out of this, which is usually not owned at the project level, that's owned by the people who made the commitment of resources, that's why I'm going to elevate this up one level for us. I think the reason we need to get our planning right is so we can help drive better value, and so go see all the podcasts about value, because that's what we're talking about here, the golden triangle, not the iron triangle. We're trying to drive to more value. The other one is, go, no-go decisions, so the boss is sitting there going like, this one's a mess because you told me this, and this is what I'm experiencing. Right there what I found interesting in reading some of the work out of your institute, Josh, was that by having bad planning, that means the next set of decision-making can be wrong, and cognitive biases are in there as well, two classic ones. Sub cost policy. Well, we're already here this far, and that causes us at the portfolio level to make bad decisions possibly.

0:47:35.3 KL: And then the second one is escalation of commitment, and I'm telling you, coming from an executive seat, that's a big one, cause I observe, particularly in my client-base, projects never die. They just go on bleeding. [chuckle] By that I mean cost. So anyway, that's what I found important. What do you think about that from the executive layer or from the managerial layer, there's an interaction with these teams and the larger system that they're in.

0:48:02.2 JR: I think it depends on who's experiencing the loss aversion because escalation of commitment is really highly associated with loss aversion. It's that loss of, like you said, my reputation or... it's that sinking feeling that I've done something and I've committed to something. And now I have to give it up. So, it's really highly loss averse, that's where you really need to go back to that psych safety piece, because if you have low trust and low psych safety in the organization, people are not going to be very willing to even bring up the possibility that that could be the case, that we're going to have to drop a project.

0:48:44.1 KL: I hadn't looked at it from loss aversion, but I want to bring this back to the top, that's condiment, that's his original work, which is our fear of loss is greater than our respect for the gain. It's not a one to one, losing $10 is not the same as possibly winning $10. We definitely fear the loss, and so you're right, this is all of us who have ever looked at a stock market that we invested in, some stock and we see it going down and we won't stop because that's a declaration that we lost 8%, but it could get better, it could get better.

0:49:13.5 MH: If it bounces back, I'm a winner.

0:49:14.7 KL: Cut your losses, right? You need to recognize that. It is so hard to do, and I don't even see it happening. Because here's what I do as a PM, trying to save the project, I start thinking of all the ways we could make it better, cause that's what we're hired to do, right, guys. We think through the problem. We're analytical, we address things, we balance them. I'm not even getting the fact that this is probably me just going, I don't want to just be called a loser right now. [chuckle]

0:49:38.7 JR: Right.

0:49:39.9 MH: So, I got a kind of a neat story that fits a lot of what you just said, Kendall, and I don't think I've ever shared this one with you before. I had as a client some years back, basically a small group physician type of office, it was an ambulatory surgical center, they did mostly elective surgeries, like orthopedic surgeries, help you with your knee or your shoulder or whatever, and they brought me in because they were profitable, but nowhere near as profitable as they thought they could be. And so, a couple of things, one, this notion of efficiency versus value, they had been so cost-conscious trying to boost their profits by cutting costs that they got rid of some of their excess capacity. And I thought, well, that's smart, right? Cause it was excess, but the reality was, if they got paid per completed surgery, which is exactly how they got paid, and of course, that's a value delivery moment for the patient for sure as well. So, everything's got a good alignment there if successful. Then some surgeries go much faster than you predict, some go much slower, so make sure you have enough orderlies and prep nurses and intake clerks, and insurance coding specialists and all the other stuff for when everything just flows perfectly on a given day, because man, that could be the one big payday that makes our month, you know?

0:50:53.7 MH: And we know there could be other days where the surgeries take five times longer than we think, and are complicated, and some of the orderlies will be standing around and the intake

clerical be sitting around. But that's okay, because what they learned was when they got rid of some of that excess capacity, their ability to exploit the upside was gone. And then worse, one of the orderlies would be out sick one day and, oh my god, now we only have one left or God forbid, zero left or, oh man, one had to rush home because there's a family emergency or they're just out on a smoke break and they thought the surge is going to take another hour, but it was done in five minutes.

0:51:25.7 KL: So, link that to how you're seeing it as a cognitive behavior or decision-making. It sounds like it became a decision not just planning.

0:51:32.7 MH: I will, in a sec, cause obviously there's a lot of normal variation there, so these guys were saying the flow of completions is what drives their bottom line, right? And more importantly, it drives their top line massively, so we can afford some excess capacity, in fact, that's how we get the top line much much higher. So, it's a much longer lever to drive the top line, right? And so, we don't care anymore. They did a fantastic mindset shift to say, we no longer care about cost, but we're getting $4000 for each surgery and we could do eight of them a day, and there's three of us doctor, so that's 24 surgeries. We can more than make up for any inefficiencies because what's driving the value is the surgeon's time. You don't want the surgeon being the intake clerk, you don't want the surgeon cleaning up the OR between surgeries, you want the patient fully prepped, you want all the instruments fully sterilized, you want everyone actually standing around waiting for the surgeon, so the surgeon shows up, performs the surgery, moves on to the next one. And everything else is, by design, excess capacity, and we don't care about efficiency anymore. So, they got over there... You might call it bias... I don't know if it's technically a bias, the way Josh would think of a bias but sort of the... it's a mindset shift of efficiency versus effectiveness, right?

0:52:49.5 JR: Right.

0:52:50.1 MH: And also this notion of, there is a cadence here, it's not always predictable, it doesn't always follow a straight line, and oh by the way, sometimes to tie back in the whole notion of loss aversion and canceling projects, some patients would come in and for a variety of reasons, either their health had degraded, we thought they were ready for surgery, but now that they're on the operating table and we're starting to perform the surgery, we see that this patient actually is at great risk and we need to stop. Even though we've done all the work and done all the preparation, and we've reserved all this capacity from this whole team of people, and we don't get paid by cancelling surgeries, right? So, there's got to be a decision to cancel, and they said, we acknowledge that we individually are uniquely bad at that, we want to just follow through in the surgery because, hey, we're all here. And so, what they actually said was the only way they could figure out a way around that was to have the other group physicians come in and advise on the decision, and not only advise, but overrule, right?

0:53:50.5 JR: There you go.

0:53:51.1 KL: They're just on cost fallacy. They had invested their time and their experience points.

0:53:56.8 MH: Bingo. And so even their stats, I forget all the... I think they're called HEDIS Measures or some healthcare stats on successful outcomes of surgeries, whatever their percentage was, the number, the volume of surgeries that came out badly for the patient was reduced over 90%

by that one change. So, they got the flow rate up, the value way up, efficiency way down, and mistakes that impact real people reduce dramatically.

0:54:25.7 KL: So, it is around decision-making, the ability to make go, no-go decisions there is what we're really seeing. So that's another whole area then to push in there, and that was Mike Hannan our Theory of Constraints consultant. [laughter] You just got TOC-ed Josh. Well, it's not a bad thing. What do you think about that, Josh? When you hear that, that story line.

0:54:46.7 JR: Well, I like the way that they brought in an outside perspective. Because the outside perspective is oftentimes what can reduce the errors and the decision-making, that's why one of the... we have a section on NeuralPlan about planned facilitation. And it kind of addresses some of those same things, and some of the things we were talking about earlier about whether you're planning your own project or planning someone else's. And that what they find is that if you have someone who is asking the questions and facilitating the plan, you can reduce some of that bad decision-making that's associated with our own work. And so having a plan facilitator to ask and pull some of these questions out and give different perspectives can often reduce a lot of the errors associated with it.

0:55:35.1 MH: Also interesting, what triggered bringing in the other physicians was the OR nurse.

0:55:43.2 JR: Oh, interesting.

0:55:43.3 MH: The OR nurse had full autonomy to say time out.

0:55:48.0 JR: Yeah.

0:55:48.0 KL: Oh wow. So, you put the trigger in a different person.

0:55:49.9 MH: Yeah, and usually the surgeons are like gods, no one overrules the surgeon, no one upsets the surgeon. [chuckle] And they're the owners and the partners in this small firm too, by the way. But they all agreed, we can't have any one of us making that call.

0:56:02.2 JR: Did you know the Israeli army has an official role, and I don't know how they pronounce it in Hebrew, I don't know if you guys have ever heard of it, but it's like a devil's advocate role in their intelligence.

0:56:14.5 MH: Like a black hat.

0:56:14.6 JR: Yeah, and their job is essentially to ask the opposite questions and bring in the devil's advocate to essentially improve decision-making. By the way, Daniel Kahneman, Dan Ariely, I believe Amos Tversky, all those guys came from some of the Israeli Universities, they've got a lot of good decision-making science over there.

0:56:38.8 MH: The head of the... The guy that invented Theory of Constraints is Israeli, or was Israeli. [laughter] He was actually an Israeli physicist who said, "It's time to put the science back into management science."

0:56:50.0 KL: There you go. We're all swimming in the same place, well, I'm going to bring this to

a close here pretty soon here. There's so many other things that we could have hit when I'm looking at your site and some of the readings that you've got in there. So, here's what I want to ask you about that, Josh, as we close up here. Tell us about the institute, how people can get connected? More importantly, what do you see going on? Where is the next part of the study going? What can they get out of it by being engaged? Do you have some quick guides on change your planning this way, change your meeting management this way, change your risk analysis, this way? What's going on at the institute?

0:57:22.0 JR: So, well, first of all, I'd like to say, and this is just to kind of follow up a little bit on what you guys were talking about, the meaning of projects and value. We like to say, the institute is in the business or the science of delivering dreams. So, if you think about... a project is someone's dream or a business need. And we're bringing in science into project management where there wasn't some before, and so thus the science of delivering dreams. And so, I think projects fulfill 20% of the world's GDP, and it's not just the bottom line, it's not just, we got to go build this business need, sometimes it's creating a vaccine that's highly needed, sometimes it's cleaning water in a third world country and actually saving lives. And so, the more efficiently and effectively that we can deliver these human endeavors by recognizing the human factors, we can become more efficient and effective globally across the whole scheme of projects. And so, 20% of the GDP at $16 trillion a year, if we can improve that by 5% or 10%, that's a couple trillion dollars more a year in global output and improving endeavors, human endeavors around the world.

0:58:43.9 JR: Whether it's creating jobs or saving lives or what have you, projects deliver a lot of things. And so, by recognizing the human errors and cognitive errors that are prevalent in all of us, or present in all of us, I think we can essentially start to deliver at a higher rate.

0:59:06.1 MH: We can solve world hunger, we really can. You've inspired me, Josh. [chuckle]

0:59:08.2 JR: Yeah, I think literally.

0:59:11.6 MH: And I don't think it's just 5% or 10%.

0:59:13.6 JR: Yeah.

0:59:14.0 MH: I think it's like double or triple.

0:59:15.8 JR: I'm hoping so. So, I think we're still at the beginning, but... And it's more than just teaching skills, it's redesigning project management around the brain. That's not just teaching skills, it's redesigning interfaces around human behavior, it's redesigning the way we measure things, both projects and human metrics called psychometrics, and it's redesigning our processes themselves. So, for example, in NeuralPlan, we have our own list of planning processes with new processes and resequenced processes, some that are common that you'll already recognize, but they're just in a different sequence. And so, it's not just teaching skills, it's also redesigning the processes themselves around human cognition. So, when we start looking at behavioral science, it's more than just, teach me to debias myself, teach me leadership skills, communication, emotional intelligence. It's so much deeper than that. It's looking at project management through the lens of the brain, and when we do that, we have to redesign everything, just the way behavioral economics did with traditional standard economics.

1:00:30.6 KL: Are you still building out over there? Are you still adding to this? Is that part of what your user base is doing with you? How is it working?

1:00:37.7 JR: Yeah, so we founded the institute three years ago. You can go to the website. So, the formal website for the institute itself is nbpmi.com, that's the institute page, and now we've added the social component with a new membership site, which is at behavioralpm.com. And so, what we're doing there is bringing it... Trying to aggregate knowledge in smaller bits and pieces, obviously, and giving people exposure to give various resources that we've been able to find, podcasts, we'll have your podcast on there, for example, recommended books that are related to behavioral science and may apply to project management, articles, and then we also add evidence based sources from time to time, based... And you can find a lot of these on Google Scholar, etcetera, etcetera, but having a central clearing house for all of this. And then of course the first product that brings it all together is Neural-Plan, so that's at neural, N-E-U-R-A-L-plan.com, and that's the NPPQ certification which blends behavioral science with project planning forecasting and risk specifically.

1:01:56.8 KL: What's it cost? What's it cost?

1:01:58.4 JR: So, well, right now it's at about $2000, we have it discounted about $500 right now, so go out there and get it while it's still down. And we just finished that in April. It is based on over 250 evidence-based sources, so this is not anecdote and opinion, this is highly researched by myself and Dr. Shari De Baets, my co-author and others. And so over 250 evidence-based sources, there are over 40 videos in the course itself, and 350 pages, so a little bit of light reading, but there are pictures, so it's not all...

[chuckle]

1:02:38.0 JR: And of course...

1:02:38.5 KL: And we could be part of the dialogue though, right? On your website, cause I've seen people blog or sharing articles and things, is there a membership fee?

1:02:47.4 JR: Yeah. On the member... Right now, there is not a membership fee, so we're not...

1:02:50.8 KL: Oh, so get in while it's free still?

1:02:52.9 JR: Get in while it's free still, yeah.

1:02:54.7 MH: I joined earlier in the week.

1:02:58.3 JR: Yes. We just want to get people in there and get engaged. And so, the people who sign up now and get into the institute membership at behavioralpm.com will never have to pay membership fees later on. So, get in there while the getting is good there, so yeah.

1:03:13.2 MH: Hey Josh, you know you inspired me on something. Before we close, Kendall.

1:03:17.4 KL: Yeah.

1:03:17.5 JR: Yeah.

1:03:18.0 MH: Yeah, so much of what I've seen in the past on behavioral science in general is focused on the biases and, oh, we humans, we're so biased, we're so fallible, we're so deficient. If only we could try and squeeze out some of those deficiencies and get better by acknowledging these biases and so forth. But what I heard from you today actually inspired me to think of it far differently in terms of like celebrating the humanity that is project management.

1:03:47.7 JR: Yeah, that is my hope.

1:03:50.2 KL: With that I'm going to have to bring it to a close, but that is a great one, celebrating humanity and the science of dreams. I'm predicting that we're not going to remember all we learned here today or all that we could, but I do want to invite everyone to follow up with that free membership. I want to invite everyone to join your organization to get the low down and get into the flow of the information, cause I think this is going to continue to unwind and see more and more areas of this application. I want to thank both of you for showing up here tonight, and remember, if you do show up on his site, let him know, I think there's an introductory thing you write about yourself or where you heard of it, remember, you heard it from PM Point Of View. And with that, Mike, you got any last thoughts for us?

1:04:29.2 MH: I think we've kind of pushed people past our usual time, so I'll let everyone go.

1:04:33.9 KL: So, there you go. PMs, if you've listened to this whole episode, you can register a PDU. Go to ccrs.pmi.org/claim and scroll to the fourth banner on the left column, it's labeled online or digital media, and manually enter provider code number 4634 and select M Powered Strategies, and then manually enter the name of the episode, PMPOV 0094, Cognitive Project Management, selecting technical project management in the talent triangle. I'm your co-host, Kendall Lott, inviting you to share the episode, perhaps to a boss. Sign up at the Neuro Institute, tell me on LinkedIn how you're leveling up to the Cognitive PM 2.0 level, and in the meantime, keep it in scope and get it done.

[music]

1:05:23.7 Announcer: This has been a Final Milestone Production, sponsored by M Powered Strategies.