The Tale of Two Cities: Water Access Influences Human Decision Making

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Does our geographical location shape our thinking? Does water access have an effect on our decision-making habits? Do we choose to live in the moment because of environmental factors?

In this episode, Under the Cortex hosts Dr. Hamid Harati, The University of Queensland, and Thomas Talhelm, University of Chicago. Through their international collaboration, the two scholars explore how our ecological environment can shape our decision-making skills. As they compare two cities in Iran, Yazd and Shiraz, they ask how cultures form based on environmental needs and how water scarcity can be a strong influencer of long-term orientation in basic life decisions. The conversation with APS’s Özge G. Fischer-Baum evolves into implications for climate change and the value of water as a monetary object.
Harati and Talhelm also published on this topic in APS’s flagship journal, *Psychological Science*. Their article is titled “*Cultures in Water-Scarce Environments Are More Long-Term Oriented*.” The authors encourage scholars from across the globe to reach out to further explore these questions in future collaborations.

Check out Harati and Talhelm’s related feature in the 2023 September/October issue of the APS Observer: “*How Climate Shaped Our Minds—and How It Might Still Save Us from Climate Change*.”

Unedited Transcript

*[00:00:14.210] – APS Özge G. Fischer-Baum*

How can our geographical location shape our thinking? Does it have an effect on our decision making habits? Do we choose to live in the moment due to environmental actors? This is under the cortex. I am APS’s Özge Gürcanl? Fischer-Baum with the Association for Psychological Science. To answer these questions, I have with me Dr. Hamid Harati from the University of Queensland, Australia, and Thomas Talhelm from the University of Chicago. They are the author of an article published in APS’s journal Psychological Science. Hamid and Thomas, thank you for joining me today. Welcome to Under the Cortex.

*[00:00:55.290] – Thomas Talhelm*

Yeah, thank you for having us.

*[00:00:56.800] – Hamid Harati*

Yeah, thank you so much for having us. As Thomas said, it’s a great opportunity to be able to talk about our paper today.

*[00:01:05.430] – APS Özge G. Fischer-Baum*

Yes, we are very excited, too. And I’m going to start with a location question. All right, you start with two cities in Iran. What is the story there? What made you think of these two places?

*[00:01:22.490] – Hamid Harati*

Yeah, sure. Actually, a few years back, I got invited to a Friday night party. The man throwing the party was a young man from Shiraz. He opened a bottle of fine wine from his own winery and poured it for us. In the party, there was another man from Yazd, and he was like, no, I’m good, thank you. My Shirazi friend said, Just relax. It’s just one glass. Life is too short. Let’s enjoy the moment. But my Yazi friend said, Hold on, it’s not just about a glass of wine. Staying up late will totally ruin my productive Saturday. That friendly disagreement clearly showed me two different lifestyles, which made me wonder, is it just the personality differences between these two people, or if it had something to do with where they came from? Just to give you a bit of background about Shiraz and Yazd, these are two cities
in neighborhood provinces in Iran, but they are walls apart in terms of their reputation. Shiraz is like the red wine capital of the world, and it’s all about poetry, romance and the arts. You stroll down the streets and it’s like garden paradise. Flowers, fruit trees.

[00:02:45.690] – Hamid Harati

If you drive a few hours, you hit Yazd. Yazd is the polar opposite. It’s the city of hard work, devotion and self control. And I won’t tell you, people in Yazd don’t mess around with instant gratification. My understanding of cultural studies was mainly shaped by the classic or older school cultural literature that mainly investigates differences between different countries, not different cities or regions. Until I read a paper by Thomas that was published in the Journal of Science. And in his paper, Thomas showed the cultural differences, specifically individualism and collectivism within China. And it blew my mind at the time, and I was thinking about it, and I think it was a great motivation for me to pursue this journey. And so I contacted Thomas and he came back to me and we started the journey from there.

[00:03:45.990] – Thomas Talhelm

Yeah. And if I could link this to some of my research so one of the things that I look at in China is different regions history of rice farming. And so I basically argue that places that have farmed rice tend to be more collectivistic because the process of farming rice involves a lot of coordination of our behavior. Farmers have to collaborate more than they do for other crops like wheat or corn. And so my sort of theoretical perspective is that I link culture to the environment, to the ecology. Right. So in China, we have rice and we have wheat farming that are linked to the environment. And then that has a lasting influence on the culture. And that was what Hamid was seeing in his experience. He’s saying here are these two places that are close to each know similar religion, similar ethnicity, language and all this stuff. But the environment, the ecology, is really different. And so maybe these differences that Hamid was seeing on the ground just in everyday behavior like at his interaction in the party, maybe that’s linked to this historical environment.

[00:04:52.150] – APS Özge G. Fischer-Baum

So in your research, you link water scarcity as a context right. For exploring long term orientation and indulgence. Can you tell our listeners what these concepts are? How did you think about linking these concepts to water scarcity?

[00:05:08.830] – Hamid Harati

I think, generally speaking, human civilization is shaped around water. Water resources, like rivers, were attractive location for the first civilization because they provided a CB supply of drinking water and made the land fertile for agriculture or even for fishing or hunting animals that came to drink water. Based on this, we can distinguish between cultures that have had access to plenty of water resources and culture that had difficulty gaining access to the water resources. I believe this factor influence on the culture. We wanted to look into differences in terms of precipitation in two cities and we looked into Shiraz and Yaz and we figured out there is a stark difference between Yaz and Shiraz. Shirazis enjoy 300 rainfall per year and the Yazis only like 50 mm. So it was like a huge differences between them. And we extended our search to freshwater availability and we figured out over generation Yazis seem to
have adopted to the tough environment by using some technologies. And they tried to preserve the little rain that we could get in the winter and save it for other season.

[00:06:34.590] – APS Özge G. Fischer-Baum

And going with our psychological concepts, could you tell our listeners what long term orientation is and what indulgence is? The two concepts that you use in your article?

[00:06:46.700] – Hamid Harati

Yeah, sure. If you want to define long term orientation we can simply say that long term orientation involves fostering virtues aimed at future revoir, such as perseverance. Research show that societies with long term orientation prioritize future benefits which avoid wastefulness and may devalue leisure as essential aspects of life. If we want to talk about indulgence. We can define indulgence as tendency to permit relatively underrestraint gratification of natural human desire, which relates to enjoying life and having fun, while restraint imply focusing on gratification through a strict social norms. If we want to talk about their cultural characteristics, we can say indulgent societies are more permissive regarding gratification desire, and they may inhibit behaviors like obesity or having casual sex.

[00:07:50.390] – APS Özge G. Fischer-Baum

All right, thank you for clarifying the definitions of those concepts, and you are linking those to this water scarcity idea. So I want to get into the details of the study a little. So in your study, there is one experiment with job postings. What was the idea behind this job postings experiment and what were the results?

[00:08:15.630] – Thomas Talhelm

So the job postings study was really fun, and I have to give Hamid credit for this because this was his idea. But basically we started the whole paper, the whole series of studies by sort of the way that psychologists normally start studies, or social psychologists normally start studies, which know, you give people questions in a lab and you ask them to rate their values or their attitudes. And so that was study one. We went to Yazt and Shiraz. These two places got people who are from these two places, college students, and we just asked them to rate values of long term orientation versus, you know, how important is thrift to you? How important is it to maximize value over the long run versus live in the moment, right? And so we study one. We just document that people from these two places really do have these different value systems. But the next question is, okay, these are values on paper. Are these just sort of ideas in people’s head or is it really something that affects people’s everyday life, everyday behaviors? We psychologists are often concerned about what we call demand characteristics, basically. Like, if I’m asking you questions or if you see that I’m measuring you, maybe you’re going to behave differently because you know that I’m looking at you, right?

[00:09:32.680] – Thomas Talhelm

I’m observing you. And so Hamid came up with this great idea for the job posting study, which is to just post two different types of jobs in these two cities and then just see how many resumes, how many
applications we get for these different jobs. And so we designed two otherwise identical job postings, but one was sort of for like a long term, stable job with a big company. So that sort of implies security and stability over the long run. And then we designed a very similar job posting that was for a fun, flexible startup. It’s kind of indulgent. It seems like it’d be like a fun, hip place to work. But it also maybe seems a little bit riskier. Startups maybe fail that doesn’t have the security of a large, established company. And so Iran has a website called Devar, and they’re sort of like Craigslist. If you know that in the united States. And so you can post jobs for different locations. And so we posted each of these jobs in both these locations. So Shiraz and Yazt, and we just waited to see how many resumes we got for these two different jobs in these two different cities.

[00:10:38.960] – Thomas Talhelm

And so we waited a week or two, and then after that, the resumes, we counted up the resumes. And in the dry city, Yazd, we got more applications for the long term stable job. In Shiraz, the city with more water, we got more applications for the sort of fun, flexible, startup job. And so the reason this is important is because people sending in their resumes, they don’t know that they’re part of a study. They don’t know that we’ve intentionally designed these job postings to appeal to either long term orientation or sort of short term indulgence. And so what we can do is we can say, okay, these differences actually seem to be related to people’s real world behavior, and it’s not a product of being observed or feeling like you’re a part of a study. So it seems like this is a real difference, and that’s really the benefit of doing that sort of field study.

[00:11:30.990] – APS Özge G. Fischer-Baum

Yeah. When you talk about these interesting results, you also explore the idea of water being a sign of wealth, right. So can you elaborate on that a little bit?

[00:11:42.930] – Thomas Talhelm

Yeah. So one sort of obvious question that comes up in this research is water essentially, should we just think of that as like a resource, like money? Right? So we have ideas about what having money does to people’s psychology or lacking money does to people’s psychology. So maybe we can just take all that research on essentially wealth and poverty, and we can just say, well, water is essentially the same, so we can make the same predictions. But what we were finding in our data was basically the opposite, that water is very different from money. Hamid found a great quote from the famous economist Adam Smith. Adam Smith wrote, nothing is more useful than water, but it will purchase scarcely anything. That sort of speaks to the difference between one of the differences between water and money. Right. Another difference is that as you as an individual, you can’t store water in the same way that you can build wealth, right? Like, you can have a million dollars in your bank account, but chances are you can’t, as an individual, build a reservoir and store a bunch of water. Right? I mean, water is not something that we can accumulate in that way.

[00:12:55.180] – Thomas Talhelm

So basically what we did in the paper is we looked at cultures around the world based on wealth. So basically, GDP, the economy, and we said, okay, what do wealthy countries around the world look like
in terms of long term orientation? And then what about water scarcity? What do cultures that have had a lot of water long term historically, how do they value long term orientation versus cultures that have lacked water places in dry places. And so the water finding is similar to the Iran finding. So basically in cultures that have had a lot of water, they tend to not think about the long term as much, they tend to be more indulgent, live in the moment, right? Sort of the idea is that, well, I’ve got a lot of water, I don’t need to worry about things, so we can sort of live in the moment. Right now the opposite is actually true of wealth. So wealthier countries tended to actually think of the long term more than less wealthy countries, right? So in other words, wealth as measured by the economy of different countries has the opposite relationship with long term orientation than water.

[00:14:05.470] – Thomas Talhelm

And I’ve personally been thinking about this as like it seems like humans have lived for a long time with the need to think about water. And money is sort of a different system. And it seems like our psychology of money is not just the psychology of water or the psychology of food. Money seems to affect the brain or we seem to treat money differently from basic things like water and food. That’s how I’m thinking about it.

[00:14:34.950] – APS Özge G. Fischer-Baum

Yeah. So we are talking about these two cities, Yazd and Shiraz, but in your article you also have your discussion and conclusion about your findings. So is this a story about two places in Iran or is this about something broader?

[00:14:53.950] – Hamid Harati

I think considering the Iran’s unique geography, which is generally a dry country with almost 20% desert, made us wonder if the findings are specific to Iran or we can find like or we can extend it to a broader population. So to address this, we expanded our study globally. We analyzed the data from 82 societies worldwide. So we collected data like the historical data that was available. We see how participants from different countries were asked about values like making time for enjoyment and practicing thrift and comparing these values with their historical freshwater availability in their region. And we found that water availability indeed influenced cultural traits, even when we controlled for wells educational level. And we looked into societies with abundant historical water tanks. So I think we believe that in our final study we could extend our finding to even countries that are not lacking water resources. So it’s more general than only investigating in.

[00:16:14.870] – Thomas Talhelm

You know, I thought this was a great example of using the experience of a country like Iran in a culture like Iran where water is really important to draw hypotheses about human psychology. Right? And so Iran was the motivation and it was the first test. But then as Hamid and I got further into, we said, okay, well, let’s see if this is something that might apply to people around the world, right? Is this an Iran story or is this a world story? Is this a human story? And what the data told us was, no, this water availability is related to psychological values around the world. And so this was an idea that was sort of sourced in a particular part of the world, but it seems to be applicable to people from all around the
world. And I think that makes sense, right? I mean, it’d be sort of weird if only people in some part of the world cared about water somehow adapted to thinking about water availability. Right? I think one of my favorite examples is that humans can survive for quite a long time without food. A week, maybe 30 days without food, but without water it’s a matter of days, right?

[00:17:24.160] – Thomas Talhelm

Two days is one estimate that I’ve seen for how long we can live without water. So it really would make sense that humans for a long time have been adapted in some way to be sensitive to water in our environment and also water in our body and the need for that. So it seems to be a human story and not just an Iran story.

[00:17:44.870] – APS Özge G. Fischer-Baum

I have a Question is about the feature, because environmental conditions are changing, do you think global warming will change people’s psychological attitudes to life?

[00:17:55.830] – Thomas Talhelm

Yeah. So we had a study that basically asked just that, right? So the idea is that climate change could be changing the availability of water in our world right now, right? I mean, the western United States is going through historic drought, at least it has been in the last few years. So could that be changing our psychology? So if humans are sensitive to the availability of water, might that be changing our psychology? There are reasons to think maybe not, right? I mean, I’ve been to Las Vegas. Las Vegas is in the desert, right? But when I’ve been in Las Vegas, every time I turn on the sink, water comes out. And you don’t need to think about, I’m sure tourists in Las Vegas, I’m sure lots of people who live in Las Vegas just don’t think about it. Right? So you could easily form the idea that, you know, for most people this just really isn’t a concern, so maybe this shouldn’t matter. But we thought, well, let’s try to test this. And so we again brought people to the lab and we gave them news articles that we had edited slightly to be about climate change affecting water.

[00:18:59.630] – Thomas Talhelm

And so in some participants, we gave them a news article that described how climate change was going to make water less available. So there’s going to have less water, it’s going to be drier. Right. Other participants, we said, paradoxically, one of the changes in climate change is that water will become more available, right? The rainfall will increase and water will become more available. And then we gave them the same measures that we had in the previous study. So thinking about the long term, thinking about the president indulgence, that sort of thing, and what we found is that when we had given people this information about climate change making water more scarce, then they started focusing more on the long term. So, okay, thrift is really important, right? Saving is really important. When we told other people that water was becoming more available, well, then they said, oh, okay, long term orientation, and that’s not such a big deal anymore. At the end, we told them that by the way, these are just things that we framed with climate change. It’s not true that I think climate change is going to make water more available everywhere around the world, but the important thing for us was the perception.
So if we can temporarily influence people’s perceptions of water scarcity, does that affect how they think about the long term? And the answer was yes. So what this would imply is that if more and more people are becoming aware of scarcity of water through climate change, what it could be doing to our minds is making people a little bit more willing to think for the long term. And I think there’s some hope in that message, right? I mean, we all need to come together to solve climate change. It’s a long term problem. We’re not going to solve it this year. So if the experience of things like water scarcity is pushing people to think a little bit more for the long term, then hopefully that’s a little bit of a nudge to get us to start thinking about solutions that are going to take a while but will hopefully be able to get us out of this climate mess that we’re in.

Yeah, I totally agree with that. And it is exciting that your results are consistent, right? You started this study as a field study and you contrasted two cities, and then you took the same idea and you did a study in a lab setting, so you have similar results. So based on these results, what are your suggestions to local governments and institutions alike in regions where there is water scarcity? Do you envision psychological interventions for the residents of such regions?

Yeah, this is a tough question. I was thinking about this over the last few days, and one of the things that occurred to me is that one way to interpret our findings is to say the more people are aware of water scarcity, then the more people will start thinking for the long term. And so what that makes me think about is, well, if you have local governments or maybe national governments, perhaps that’s something that they could start raising awareness about now. It’s sort of a conflict, right? I mean, mayors don’t like to say, oh, by the way, we have a water problem here. Don’t move here, or it could be bad news. Right. But there have been moves in that direction. Right. So Phoenix, Arizona was in the news. It was sometime this summer where the government in Arizona started telling people we’re not going to approve new houses if you can’t prove that you have enough water to build these houses. Right? And I think that starts to put people in this mindset of, okay, water is something we need to pay attention about. We can’t just take it for granted. Right. And so I think that the more we can instill this idea that there is a scarcity of water, the more people might be willing to think about long term sacrifices, right?

Maybe I don’t need a new golf course in the desert. Or maybe we shouldn’t be growing crops that require a lot of water. Like we grow an insane amount of alfalfa in the southwest of the United States just to give to cows and other animals. I mean, these are incredible amounts of water that we’re using to grow crops that aren’t particularly profitable. And so the only way we’re going to get past things like that is to start thinking about the long term, thinking about what to do this year, next year, is not going to get us there.
Is there anything else that you would like to share with our listeners?

[00:23:23.170] – Thomas Talhelm

So I think one important point about the research that we’re doing in the global study, what we found is that cultures history of water availability was a better predictor of cultural differences than their current water availability. So how much water different cultures have now doesn’t matter as much as the long term history of that. And that long term history will influence the culture, and there will be a certain amount of inertia in the culture, right. The culture will persist even if the moment to moment conditions change. Right. And so on the one hand, we’re arguing that culture has this inertia, it has this persistence over time, right? So maybe things are different today or tomorrow, but you’re still going to have this sort of cultural persistence. But then we also talked about the global warming study, right, where we took people in the lab and within like 10 minutes, we’re changing their long term orientation, right? You read this article and now you endorse long term orientation, right? And so some people look at that and they say, well, which is it? You said it lasts a long time and it persists even when conditions change.

[00:24:31.190] – Thomas Talhelm

But then in this other study, you’re showing that it changes in 10 minutes. And I think the answer is that humans are complex, right? We have habits and we have traditions, and we have things that are unlikely to change. Right. But humans are also sensitive to the moment, right. And I think that those are, in a way, it’s not contradictory to say that humans can do both. Right? If you put it right in front of my face and you say water is becoming more scarce, then I’m going to change my behavior. Right, but at the same time, we have these accumulated histories and cultural traditions that are sometimes based in historical environment, the ecology, and those can sort of influence our present, too. So I think humans are both right. We are creatures of habit, but we are also adaptable to the situation. So I don’t see that as a contradiction. I just see that as something that humans do. Both yeah.

[00:25:27.690] – APS Özge G. Fischer-Baum

Humans are complex indeed. And what it sounds like. Water is not only the source of life, it is also the source for our psychological thinking. Thomas and Hamid, thank you very much for this interesting conversation today. It was a pleasure to host you for our podcast.

[00:25:46.270] – Thomas Talhelm

Yeah, thank you for having me. It was great to chat. And I hope maybe in some small way, there are other listeners out there who might be from parts of the world that aren’t normally represented in our journals, and maybe they have an idea for I don’t know if it’s like apple farming versus raising silkworms or whatever, the ecology and the environment. I hope people are inspired to think about cultural traditions and the environment and subsistence style and farming and fishing and all the other cool things about there that are out there in the culture. And if anybody out there has a great idea, feel free to get in touch with me or Hamid. And who knows, maybe that’s the next paper out there. Okay?

[00:26:29.860] – Hamid Harati
Thank you so much for this opportunity. It was great to talk about our paper and how we can continue this journey.

[00:26:38.190] – APS Özge G. Fischer-Baum

Thanks again. Both. This is Özge G. Fischer-Baum With APS and I have been speaking to Dr Hamid Harati from the University of Queensland, Australia and Thomas Talhelm from the University of Chicago.