This is a transcript of The Conversation Weekly podcast ‘Social media drains our brains and impacts our decision making,’ published on December 21, 2023.

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Mend Mariwany: Social media can be mentally draining and affect our behavior in surprising ways. Now, new research is showing just how scrolling through social media can affect our ability to make rational choices. I'm Mend Mariwany and you're listening to The Conversation Weekly, the world explained by experts. I'm joined for this episode by Kate Kilpatrick, editor at The Conversation in the US. Hi Kate, thanks for coming on the show.

Kate Kilpatrick: Hi Mend, it's great to be on the show.

Mend Mariwany: You recently worked on a story in which you explored the impact of social media and you specifically looked at how scrolling through social media can add a lot of mental load to our brain and make us vulnerable to making bad decisions. What drew you to this topic? Have you had any personal experience like this yourself?

Kate Kilpatrick: I unfortunately have. I was spending a lot of time on YouTube at night. So, I was scrolling through a lot of videos, you know, went lights out before falling asleep, and most of these videos were shopping-related. So it was, you know, the fall trends you need to buy or the best viral products on Amazon. And yeah I found myself, at night, making these purchases for products like a viral product for a foot scrub that, you know, makes your feet feel baby soft again and I would use it once and never use it again. So, I just found that I was, sort of, in this habit of buying these inexpensive products, but products that I really didn't need.

Mend Mariwany: That really resonates with me. I remember some of the impulse purchases I've made and I probably haven't ever used them ever again. Now, you've been working with an academic, Matthew Pittman, who's been researching this phenomenon. Can you tell me about him?
Kate Kilpatrick: Yeah, so Matthew Pittman is an assistant professor of advertising at the University of Tennessee in the United States And he focuses on the, sort of, newish social media environment. So Instagram, TikTok, etc. And how these platforms have so many different types of content. We're looking at photos, videos, comments, likes, and how that is a lot of information for our brain to process.

Mend Mariwany: And Matthew uses the concept called cognitive load. Can you explain what's meant by that term?

Kate Kilpatrick: Sure. So cognitive load is the amount of information our brain can handle in any particular moment. So, the idea when it comes to learning is that if somebody's learning something new, there's only so much information they can take in at a particular time. And so what Matthew's studies show is, sort of, similarly when people are scrolling through social media and they're being bombarded by all this type of information, their brain just gets sort of frazzled and that leaves them vulnerable to buying things that they don't need and maybe they don't even want.

Mend Mariwany: Thanks so much for explaining that and thank you for coming onto the show, Kate.

Kate Kilpatrick: Thanks for having me, Mend.

Mend Mariwany: I called up Matthew and spoke to him.

Matthew Pittman: I was browsing social media, like all of us do, and I found myself seeing the same ads over and over for these ridiculous products and I was like, "Why am I seeing ads for custom Lego sets or a manny pack, which is a fanny pack meant to look like a hairy man’s beer belly? And then I realized the reason I was seeing the ads is because I was purchasing these products. And my wife and I had many conversations about why did you think you needed this item. So eventually I decided to investigate what was it about social media use in itself, maybe that was priming me to be a little more susceptible to persuasive messages and unnecessary advertising.
**Mend Mariwany:** Matthew set out to study what researchers in the field of psychology refer to as cognitive load.

**Matthew Pittman:** Cognitive load is just the idea that our brain is a computer with, and just like all computers, it has limited processing capability. So, if you're trying to have a Zoom call and watch a movie and download a game, all at the same time, it's going to tax those limited resources. Our brain has limited resources and it can also be taxed if we try to do too many things at once.

**Mend Mariwany:** But Matthew says the extent to which information puts a strain on our cognitive load isn't always the same. That's because the way we are able to process information changes throughout the day, as we become more and more exposed to stimuli from our surroundings.

**Matthew Pittman:** So maybe when you first wake up in the morning, you're not tired yet, you're not stressed, hopefully, yet first thing in the morning. When you see an ad for a manny pack, you think, "That's dumb, I don't need that," and you move on, you scroll past it. However, later in the day, when you are thinking about many simultaneous things, what you're having for dinner, what time am I going to go home, what's the commute like, will there be traffic, and you're scrolling social media. So you see a post from an old boyfriend or girlfriend from high school or college, a co-worker who's currently on vacation, and you think, how can they afford this vacation? All of these things are taking little bits of your brain power to evaluate and think about. And once that's gone, then our defenses are down and then we're more susceptible to superficial cues.

**Mend Mariwany:** Superficial cues are distractions unrelated to the actual content or task at hand, so think if a book or article has many pictures with bright colors that don't relate to the story, or for example if a website or application has a lot of buttons and links. These superficial cues can distract us from focusing on a task or from grasping important information.

In the context of Michael's research, he's talking about the ads we're exposed to when using social media on our phones that can make it really hard to use the phone for what we intend to use it for.
Matthew Pittman: So normally something with a million likes is not going to persuade you. However, when you're under cognitive load and your defenses are down and you see something that has, "Oh, a million people like it? Cool. That looks good. Click. I'll buy it too."

It should be worth noting that I don't think depleted cognitive load will make you purchase something totally crazy that you never considered, but if you're on the fence about a purchase and you're under cognitive load and you see either a lot of likes or a lot of comments or maybe it's very attractive people in the ad, “That looks good. They look happy. I want to be happy too. Click. I'm going to purchase it.”

Mend Mariwany: It reminds me a little bit of a context where, let's say, you're in a city environment. There's a lot of people and there's someone approaching you who wants to sell you something. And because of the distractions, you feel more susceptible to actually engage with that person and then buy whatever it is from that person. Is that a good analogy or?

Matthew Pittman: Yeah, that tracks. I feel the same way when dishoused people, why they wait at traffic intersections. Part of it is because that's where cars are stopped and they can have access. But also part of it is, I panic if the light turns green and my kids like, "Dad, can we give them a sandwich?" I'm like, "Ah, yeah, OK." And because I'm frazzled and thinking, I'm more likely to make kind of a snap judgment.

Mend Mariwany: To understand exactly how these superficial cues can influence our behavior, Matthew and his colleague Eric Haley, conducted three online studies on 300 Americans aged 18 to 65. They were looking to see how people would respond when under cognitive load. To do this, they showed people adverts for different kinds of food-related products, to see how that would influence their processing capacity.

Matthew Pittman: We used food overall because everybody has to eat, everyone has at least some vested interest in the food they consume.
Mend Mariwany: In the first study, the participants were split into three groups. A control group was asked to look at an image of an advert for a food subscription service using their phone. A second group had to memorize a nine-digit number and then look at the same ad. The third group were asked to scroll through their Instagram feed for 30 seconds and then also look at the ad.

Matthew Pittman: You're going through that Rolodex of, 'OK, that's my aunt, okay, that's somebody I met once. OK, that's Dwayne "The Rock" Johnson. OK, I guess he's filming a new movie’ and you're constantly shifting these evaluation criteria that require some cognitive effort. So for each study, we did that.

Mend Mariwany: The team also tested how likes and comments on a social media ad would affect participants' cognitive load. So rather than being shown a simple image of an advert, some were exposed to an advert with a few hundred likes or tens of thousands of likes, to see how that would impact their cognitive load.

Matthew Pittman: Every time, once we induce load, people were more persuaded by high metrics, high comments, high likes so they’d jump on the bandwagon.

Mend Mariwany: In other words, if somebody was burdened with the cognitive load of looking at their Instagram feed, the more impressionable they were to likes and comments shown under a social media advert, and they were more likely to say that they'd buy the product than those in the control group or those who had to memorize the nine-digit number. Matthew was also trying to measure the mental effort involved. So, after viewing the advert, each participant was asked to rate how much mental effort it took them to complete the task.

The result indicated that the Instagram feed led to some reduction in mental capacity, meaning the participants had fewer cognitive resources available to process information, solve problems, and perform tasks effectively. In a second study, participants were shown an advert for a fictional ice cream, but this time the team went further and looked at participants' capacity to solve or engage in more complicated tasks after they'd scrolled through social media.
Matthew Pittman: Sometimes we would have them do a math problem. And we calculated the percentage of the time they got it right and people under cognitive load got it right less often because there's more in their head going on they can't do this basic albeit complicated arithmetic. We also had an open-ended question, which we used a text sentiment and grammar analysis program to look at the structure of the sentences they gave.

Mend Mariwany: Participants were shown pictures of the ice cream advert and were then asked to explain if they would buy the ice cream and if so why they would be buying it.

Matthew Pittman: People who were not under cognitive load gave grammatically normal sentences that flowed logically, such as, "This ice cream looked tasty," or, "I liked the colors." But when people were under cognitive load, even their sentences were more fractured, like single words, “tasty, fine, yummy, cold.” So, we thought that was a cool way to qualitatively show ‘Hey, even the sentences in our language abilities go down when we're under load’, which explains why I can't explain to my wife why I consistently make stupid purchases.

Mend Mariwany: The way our cognitive load is affected also depends on how much an activity involves conscious intentional thinking or what's also called central processing.

Matthew Pittman: If people are using central processing and you want to sell them a watch, you talk about the complex movements, the Swiss gears, and the quality of the metal and the whatever and the glass and its aluminum, titanium.

Mend Mariwany: When we're engaged in automatic and more superficial processing of information, so-called peripheral processing, we're more likely impacted by other factors.

Matthew Pittman: If they're using peripheral processing, you just show George Clooney in the watch because our brains process information differently, so or if they're highly involved in the product, they care about watches, they care about the quality, the legacy, all that stuff. You need strong arguments to move them down
that path, down that purchase decision. If they're not involved and/or they're using peripheral processing, their strong arguments aren't going to move them in that direction because they don't really care or know enough to care.

**Mend Mariwany:** But Matthew says that in some situations, people are better at coping with an overload of stimuli. This is what he and his colleagues tried to test in their third study.

**Matthew Pittman:** When it's an area that you do care about or you do have some experience, then because of the involvement, because it's a personal issue for you, you're more likely to devote those resources, even when you are depleted.

**Mend Mariwany:** In other words, when participants showed that they'd had greater knowledge of and involvement in a product, cognitive load and the number of likes on the advert they were shown weren't significant.

**Matthew Pittman:** In the study, this product category was coffee because people love coffee. Some people are kind of ambivalent and they don't care, and some people don't really like coffee. So, it was a perfect thing to study because you have a full spectrum of product involvement. And we found that for people that didn't really care about coffee, we replicated the same results from the first two studies, which was no cognitive load, they make balanced rational decisions. However, once you induce cognitive load, which we did just from having them scroll their Instagram for 30 seconds, then they were more susceptible to cues of, ‘hey, lots of comments, lots of likes, this is popular.’ However, past a certain point of coffee involvement, I think it was like 5.7 on a scale of 1 - 7. Once they're higher than that, that means they love coffee. That means even though I'm taxed and I'm frazzled and I'm trying to hold all these things in working memory. In that case, even when we induce cognitive load, if they loved coffee and they were very involved, they were not persuaded by superficial cues or metrics. Because they love it, it's personal to them, they're involved and so they're still gonna think rationally about it because they have that experience and knowledge.

**Mend Mariwany:** That's because participants cared enough about the product to devote their cognitive resource to evaluating the product for themselves. Social
Media isn't going to go anywhere. It's here to stay. How can we use this knowledge to help us perhaps be more conscious and aware in moments when we are just on the internet browsing, just on our phone's browsing?

**Matthew Pittman:** Yeah, so that's a great question. And part of it is just what you said, awareness, media literacy. Which is why I like talking about it on podcasts like this. I think it's important to know, hopefully we can educate people to be aware that the way you make decisions on social media is affected by how long you've been using that social media. Just like research has shown that self-control is a muscle that gets more tired throughout the day, which is why it's easier to have a healthy breakfast than it is to have a healthy dinner. The longer you use social media, the more you're frazzled and mentally tired and more likely to make these questionable purchases.

**Mend Mariwany:** And perhaps more personally, what do you do in order to stop yourself from buying manny packs?

**Matthew Pittman:** I do try to be more deliberate in my own personal social media use. So, whether I'm walking out to check the mail or walking down a hall, it's instinctive for a lot of us, even if we're going to the bathroom, it's instinctive to just pull out the phone. But I try to. I'm not successful all the time, but I'm getting better. Before I click on the social media icon to open up that app, I take inventory and say, 'All right, what am I doing? Why am I using it? Am I just killing time for 15 seconds? Cool. Let's let it be that. Do I want to check in with the world? Do I want to see what's going on with a certain sporting event or other human being in the world that I'm familiar with?' By figuring out my motivations beforehand, it hopefully helps me align those motivations with the outcomes.

**Mend Mariwany:** I suppose what you're saying is we should be more intentional in our use of social media. But I know that I often open my phone with a particular intention and then half an hour later, I’ve forgotten what I was going to do.

**Matthew Pittman:** And sometimes it only takes one certain post to divert us from that attention. We should also note that other communication scholars have been telling us this for years from the standpoint of mental health and wellbeing and
human communication. The idea that spending hours a day on a platform probably isn't the most healthy. Figure out what you wanna do, and who you wanna communicate with beforehand. But now it's cool to have evidence that complements that from an advertising, marketing standpoint to say, ‘Hey, not only will you be probably less happy and more confused and anxious, but you're also going to buy stuff you might not need.’

**Mend Mariwany:** That's it for this episode, thanks to Matthew Pittman for talking to us about his research and to Kate Kilpatrick who edited the original story on The Conversation. We’ll put a link to that in the show notes.

This episode of The Conversation Weekly was produced and written by me, Mend Mariwany, with assistance from Katie Flood. Gemma Ware is the show's executive producer. Sound design was by Eloise Stevens and our theme music is by Neeta Sarl. Stephen Khan is our global executive editor, Alice Mason runs our social media, and Soraya Nandy does our transcripts.

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