

## Memory Reconsolidation: A Way to Dump Your Negative Audition and Performance Baggage?

### Description

Once upon a time, when my daughter was a toddler, we brought home a container of super cute mini zucchini's that we found at a local farmer's market.

She took a nibble, made a face and spit it out, and from that point onward, would gag every time we put one of the tiny pinkie-finger-sized zucchini's in front of her face. We thought it was pretty hilarious and couldn't stop laughing (we're not generally as sadistic as this story is making us appear), but fast forward a decade or so, and my daughter remains militantly opposed to the presence of zucchini in her food.

Sure, this could just be a reflection of her natural taste preferences. Or...did we inadvertently create some sort of deeper emotional memory of this experience that amplified her aversion to zucchini? I mean, we did replicate the zucchini/gag reflex thing an awful lot of times for our own amusement, and then repeated it for the video camera, and then showed my parents, etc...

Because whether it's mini zucchini, embarrassing memory slips, or mortifying audition fails, sometimes negative memories can stick with us across the years and continue to make us feel uncomfortable. Even if, intellectually, we know we have nothing to fear. And have discovered that zucchini can be neutralized by turning it into sweet bread. Or can recall numerous successful memory slip-free performances of Bach in the years since.

How can that one negative memory continue to outweigh the successes we've had? And is there any way to let go of that performance or audition baggage we're still carrying around?

### Memory reconsolidation

For many years, it was thought that these unconscious emotional memories from the past were permanent and unchangeable. But in recent years, our understanding of memory has changed, and researchers have begun to find that memories of past negative events can be "edited" in such a way that we may be able to loosen the emotional hold they have on us.

It's a process known as "reactivation-induced reconsolidation," and involves recalling the event, and introducing new information into the memory (like something positive that came of it) that updates our original interpretation of the event.

Wait, really?

## A memory study

A team of researchers ([Speer et al., 2021](#)) recruited 91 participants to take part in a study designed to explore this reconsolidation process.

Everyone was randomly assigned to either a **positive group** or a **control group**, and then presented with a list of common life events (e.g. applying for a job, embarrassing yourself, going through a break-up, missing a meeting, taking an exam, etc.), to help trigger 10 negative memories of something that happened in their past (e.g. failing a test).

### Session #1

After coming up with a set of memories, participants were asked to write a 3-5 sentence description of each one. They also rated how the memory made them feel in the moment, how intense and vivid the memory was, how significant it was to them, how often they find themselves recalling that memory, when it happened, etc.

Then, participants were asked to elaborate further on the negative memory, by writing another 3-5 sentences about the event. Either by simply recalling the details of the memory again (**control group**), or while focusing on *positive* aspects of the memory (**positive group**).

### Session #2

A week later, participants returned to the lab, and described each memory once again in 3-5 sentences. Before leaving, they repeated the memory ratings as well – i.e. feeling, intensity, vividness, significance, etc.

### Session #3

Two months later, participants repeated the process of describing each of the 10 memories, and rated their feelings about each memory one last time.

So...did the reconsolidation exercise have any meaningful effect on reshaping their memories of the negative events? And if so, was it a temporary effect, or more long-lasting?

## What happened?

Well, not surprisingly, as the weeks passed, both the control and positive groups' negative feelings about

the memories they were asked to dredge up in the initial session naturally began to fade away. But there was a significant difference in the magnitude of this effect between the two groups.

Specifically, the positive group had a significantly greater increase in **positive emotion** at the 1-week and 2-month sessions than did the control group. The positive group's memory descriptions also contained more **positive details** at the 1-week and 2-month follow-ups, than the control group participants' descriptions did.

In case you're wondering what that looks like, here's a low-positivity and high-positivity example from the study:

### Low Positivity

*There was a hurricane last summer. After it was over, there were fallen trees throughout my whole neighborhood and a few tall trees in our backyard that I feared would fall on our house. Our basement was flooded and we didn't have electricity for a full week. My younger sister had a really hard time with this, which made me really sad. It was so scary and I wasn't sure what to do about it.*

### High Positivity

*On New Year's Eve I got into a big fight with my cousin about my ex-boyfriend. It seemed awful at the time. But I realize that everything he told me was meant to help me, not make me upset. He told me that my ex- boyfriend wouldn't be the right person for me in the long run. I'm glad someone had the courage to tell me this. It also helped my cousin and I learn how to communicate better.*

In other words, the positive memory reconsolidation exercise seemed to not only change how participants *felt* about the negative memory, but it also appeared to change the *content* of what bits of the memory naturally popped into their thoughts when they recalled each memory in subsequent sessions.

## An “edited” memory?

Specifically, the positive participants tended to include fewer and fewer of the original details from their initial description of the negative event, and began replacing them with more positive details about each memory – especially new, previously undisclosed details – at both the 1-week and 2-month follow-up sessions.

In other words, the positive reconsolidation exercise seemed to update their memory of the negative event in such a way that their recollection of the event became more balanced or came to have more positive details embedded within it than before.

So what are we to make of all of this?

## Caveats

Well, before we get to that, there are a couple important cautionary details to keep in mind.

### Detail #1: Individual differences

For one, some people may have more difficulty recalling positive aspects of a story or situation than others. Among those in the positive group for instance, the participants who experienced the biggest change in positivity across the three sessions also tended to report fewer symptoms of anhedonia (i.e. loss of pleasure, decreased motivation). So it could be that those who are experiencing these types of depressive symptoms may not find this memory updating technique as effective.

### Detail #2: Not all negative memories are the same

But more importantly, not all negative memories are created equal. The authors note that an event that is very vivid, or has lots of emotion associated with it – especially negative ones – may be much more challenging to address.

After all, failing a test, having a bad lesson, or fumbling a tricky passage in an audition can feel very different to different people – or even to the same people at different times. In that a botched audition could range from annoying or aggravating all the way to something that feels more traumatic, depending on the circumstances.

And if we're talking about trauma, this is certainly not the sort of thing you want to take on yourself, whether your own trauma or that of a friend or student. Traumatic emotional memories are of course best addressed with a qualified mental health professional who has the appropriate experience and training to serve as a guide.

So...might there be any key takeaways that could be applied to milder negative performance experiences that have stuck with us?

## Takeaways

Well, the findings of this study reminded me of a quote on the internet attributed to Nelson Mandela – “I never lose. I either win or learn.” Which to me, sounds a little like the approach to reframing negative experiences that the participants in this study were encouraged to try.

And how might that relate to music?

Well, if every time you play a particular piece, the first memory that pops up is the one of you having a memory slip at summer festival, even though that was ages ago, and you've played it a bazillion times since with no issues at all, that might be the sort of memory that could be appropriate for the memory

reconsolidation strategy.

Where instead of trying to push the memory away or redirecting your thoughts elsewhere when it comes up, you could try to “edit” it by elaborating on the positive growth or change that came from that moment. How this experience prompted you to change your approach to practicing, and how you incorporated new [deliberate memorization strategies](#) into your preparation, which ultimately changed your playing for the better.

This remains a relatively new area of research, and much work remains to be done, but given how easy it is to dwell on only a very narrow aspect of our bad days on stage, this certainly seems like an intriguing and promising way to dump the random pieces of performance/audition baggage that I think we all wish we could get rid of!

## More on this topic

BTW, if you’re interested in learning a little more about this line of research, I think you might enjoy this TED talk with behavioral neuroscientist Amy Milton:

- [Can we edit memories?](#)
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## Reference

Speer, M. E., Ibrahim, S., Schiller, D., & Delgado, M. R. (2021). Finding positive meaning in memories of negative events adaptively updates memory. *Nature Communications*, 12(1).  
<https://doi.org/10.1038/s41467-021-26906-4>

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