**NPR Transcript: Batman, Part 1**

ALIX SPIEGEL, HOST:

From NPR News, this is Invisibilia. I'm Alix Spiegel.

LULU MILLER, HOST:

And I'm Lulu Miller.

SPIEGEL: And today we're going to tell you a story that we think is going to make you believe something that you do not currently believe.

MILLER: Right.

SPIEGEL: And to begin to explain this story, we want to introduce you to something - a rat.

MILLER: (Laughter) Hi, buddy.

SPIEGEL: Recently, Lulu and I got a rat, and we brought it to NPR.

MILLER: So can you just describe what we got here?

UNIDENTIFIED MAN #1: It's a rat.

UNIDENTIFIED WOMAN #1: Pinkish ears.

UNIDENTIFIED MAN #1: Red eyes.

UNIDENTIFIED MAN #2: Long nose.

SPIEGEL: And we invited people into this room, one by one, to sit in front of the rat, look it in the eye and answer one question.

Do you think that the thoughts that you have in your head - OK? - the private thoughts that you have in your head could influence how that rat moves through space?

UNIDENTIFIED MAN #1: No.

UNIDENTIFIED WOMAN #1: No.

UNIDENTIFIED MAN #2: No.

SPIEGEL: And it was almost unanimous.

UNIDENTIFIED PEOPLE: No.

SPIEGEL: People did not believe that their personal thoughts about the rat would have any effect on the rat at all.

BOB ROSENTHAL: Because that would suggest some sort of telepathy.

SPIEGEL: Now, maybe this is your belief as well. And if it is, you're wrong.

ROSENTHAL: (Laughter) Yes.

SPIEGEL: This is a man named Bob Rosenthal. And early in his career as a research psychologist, he did something very devious. Late one night, Bob secretly crept into his lab, and he hung signs on all of the rat cages. Some of the signs said that the rat in the cage was incredibly smart and some of the signs said that the rat in the cage was incredibly dumb, even though neither of these things was true.

ROSENTHAL: They were very average rats that you would buy from a research institute that sells rats for a living.

SPIEGEL: So then Bob brings this group of experimenters into his lab and says for the next week, some of you are going to get these very smart rats and some these very dumb rats. And your job is to run your rat through a maze and record how well it does.

ROSENTHAL: That's right.

SPIEGEL: So off the experimenters went.

Can you just pick up the rat?

We actually did a very lo-fi unscientific version of Bob's experiment here at NPR.

UNIDENTIFIED MAN #3: Is that OK to do?

SPIEGEL: Yeah.

MILLER: Yeah.

SPIEGEL: In Bob's real study, the experimenters did just as Bob told them to do. They ran the rats that they had been told were smart...

UNIDENTIFIED WOMAN #2: She has sort of an intelligent-looking face.

SPIEGEL: ...And the rats that they had been told were dumb...

UNIDENTIFIED MAN #4: Yeah, he seems kind of lazy.

SPIEGEL: ...Through these mazes.

UNIDENTIFIED WOMAN #2: There he goes.

SPIEGEL: So what did they find? It was not even close.

ROSENTHAL: The results were so dramatic.

SPIEGEL: The smart rats did almost twice as well as the dumb rats...

MILLER: Even though they weren't...

SPIEGEL: ...Even though the smart rats were not smart and the stupid rats were not stupid. They were just all the same kind of average North Dakotan rat (laughter).

MILLER: So, Alix?

SPIEGEL: Yeah, Lulu?

MILLER: Let me just break in here and represent all the people who are just hearing about that study and thinking, like, what would what I think a rat is - in terms of dumb or smart - what on Earth would that have to do with what a rat actually does? Like, that almost to me sounds like the stuff of science fiction, like telekinesis, like...

ROSENTHAL: Got you, got you.

SPIEGEL: Yeah, no one really believed him at first.

ROSENTHAL: I was having trouble publishing any of this.

SPIEGEL: But what Bob eventually figured out was that the expectations that the experimenters had in their head actually translated into a whole set of tiny behavior changes. That is, the expectation subtly changed the way that the experimenters touched the rats and then, in turn, the way that the rats behaved. So when the experimenters thought that the rats were really smart, they felt more warmly towards the rats and touched them more carefully.

ROSENTHAL: We do know that handling rats and handling them more gently can actually increase the performance of rats.

(MUSIC)

SPIEGEL: And in people? Because it turns out that this kind of dynamic happens in people, too.

CAROL DWECK: You may be standing farther away from someone you have lower expectations for. You may not be making as much eye contact. And it's not something you can put your finger on. We're not usually aware of how we are conveying our expectations to other people, but it's there.

SPIEGEL: That's Carol Dweck, a psychologist at Stanford. She was one of several researchers who explained all kinds of surprising things that expectations can influence. Like teacher expectations can raise or lower a student's IQ score. A mother's expectations can affect the drinking behavior of her middle-schooler. Military trainers' expectations can literally make a soldier faster or slower.

MILLER: Think about that. As you go through the world, the expectations of other people are constantly acting on you, literally making you stronger or weaker, smarter or dumber, faster or slower.