

Researcher: Teens don't know everything, and those who acknowledge that fact are more eager to learn

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Some students say, 'I failed, but I want to learn more'

Researchers asked participants difficult questions and told them their answers were wrong. Some participants had just read an article about the benefits of recognizing they don't know everything, but others had not. Those who had were much more likely to want to brush up on their knowledge than those who had not read the article.

 Share who chose to take a tutorial on the subject



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If you, like me, grew up in the 1980s and 1990s, you may have come across the classic refrigerator magnet, "Teenagers, leave home now while you still know everything."

Perhaps you know a teen, or maybe you were a teen, like this: pop-star energy, a little too confident in your opinions, a little too certain that no one could know what you know. Adolescence is the period of life when people transform from children into adults. To handle the transition

successfully, people need to shed parental dependencies and [become more autonomous and independent](#). So it makes sense that teens think—or at least act like—they know everything.

I'm a [scholar](#) of how people, at any stage of life, handle the fact that they do not actually know everything.

My research has examined what happens to [young people](#) who, amid the emotional, social and hormonal storms of adolescence, find themselves relatively willing to acknowledge that their knowledge and perspective are actually limited. This is an attribute scholars like me call "[intellectual humility](#)," which describes a person's recognition that there are gaps in what they know and that those gaps make their beliefs and opinions fallible.

My colleagues and I wondered whether anything was different about teens who recognize this fallibility—who are intellectually humble—and those who don't. We really weren't sure, because the answer is not obvious. On one hand, being aware of their own ignorance and fallibility might be an asset for teenagers by making them more [teachable and open-minded](#), and perhaps even [more likable](#). On the other hand, perhaps awareness of their ignorance could be so overwhelming that it makes them feel defeated and helpless, essentially shooting young people in the foot before they have even gotten off the starting line of their adult life.

We wondered whether, and to what extent, intellectual [humility](#) is beneficial for youth and to what extent it might actually be harmful.

Anticipating failure

[In a series of studies](#) that collectively enrolled over 1,000 participants, [high school students](#) rated themselves on the degree to which they agreed

with statements like "I acknowledge when someone knows more than me about a subject" and "I question my own opinions, positions and viewpoints because they could be wrong" as indicators of intellectual humility.

We then asked [students](#) to imagine that they had failed a quiz in a new class and, critically, what they would do next. Students rated a series of possible responses to this setback, including more mastery-oriented responses, such as "study harder next time," and more helpless responses, such as "avoid this subject in the future."

The students who had rated higher in intellectual humility more strongly endorsed the mastery responses, showing that the intellectually humbler they were, the more they said they would try to learn the difficult material. The students' degree of intellectual humility did not coincide with their helplessness ratings. In other words, the intellectually humbler students were not more defeated and helpless. Rather, they were more interested in improving.

Actually encountering failure

We wanted to know more, especially whether students' hypothetical behavior would be the same as their actual behavior. Our next two studies addressed this question.

One study had three phases. We started by measuring adolescents' intellectual humility with a self-reporting questionnaire like the one we'd used before.

Then we returned to their classrooms months after the questionnaire, on a day when the teacher returned an actual, graded unit test. As students saw their test feedback and grades, we asked them to rate different options for what they might do to prepare for the next test.

The intellectually humbler students endorsed items like "try to figure out things that confuse me" and "ask myself questions to make sure I understand the material" more strongly than the less intellectually humble students, regardless of whether they performed well or poorly on the test.

For the last phase of this study, we waited until the end of the school year and asked the teacher—who did not know students' intellectual humility scores—to rate each student's eagerness to learn. According to the teacher's ratings, the intellectually humbler students took on learning with more gusto.

In the other study, with another group of students, we again gave them the questionnaire on intellectual humility. Then we asked them to complete a challenging puzzle that tapped into their actual persistence and challenge-seeking behavior.

The intellectually humbler students preferred challenging puzzles more than easy ones that they already knew how to do, spent longer trying to solve the challenging puzzles and made more attempts at solving puzzles even after they had failed than their less humble peers.

The role of mindset

Collectively, those studies gave us additional confidence that intellectually humbler students were more teachable and willing to work harder than their more defensive, less humble peers—not only by their own accounts but also according to a teacher and as measured by an actual behavioral task.

But we didn't know whether the intellectual humility caused that openness to learning. We wanted to know if encouraging students to be more intellectually humble would actually make students more focused

on learning and mastery and less likely to throw up their hands and surrender in the face of a challenge.

So we randomly assigned participants to read one of two articles, one about the benefits of being intellectually humble, the other about the benefits of being highly certain. These articles looked like they had been written for a popular media outlet, but they were actually written by us.

As a cover story, we asked for participants' feedback on the article: Was it intelligible? Could a young person understand it? What was the main idea?

Next, we asked participants to do a second, ostensibly unrelated activity. We asked them to imagine specific objects and rotate them in their minds' eyes. These were tricky problems, taken from dental school admissions exams, aimed at determining a person's spatial visualization skills.

After they finished the problems, we told participants they had done well on some questions and failed others. This feedback was made up so that it would be consistent for every participant. Prior researchers have [used a similar procedure](#) because it is difficult for people to determine whether they had answered these questions correctly or not, making both success and failure feedback equally plausible.

Then we asked if they would be interested in taking a tutorial on the material they failed. The results were dramatic: Upon hearing that they failed a series of questions, 85% of those who had read the article about the benefits of intellectual humility chose to invest in learning more about the failed subject. But just 64% of those who had read about the benefits of certainty chose to learn more.

In all of these studies, intellectually humbler adolescents showed in a

variety of ways and via a variety of different measures that, when they got something wrong, they cared about getting it right the next time. Rather than throw up their hands and declare themselves to be helpless in the face of ignorance, intellectually humbler students set to work on learning more.

Other researchers' findings that corroborate these results show that young people higher in intellectual humility are [more motivated to learn](#) and [earn higher grades](#), in part because they are more open to corrective feedback.

We are continuing our research into how intellectual humility shapes teenagers' lives and how parents, teachers and society can promote it. Some of our recent work has looked at how schools make it either [easier](#) or [harder](#) for young people to express intellectual humility. We also have questions about how much American parents, teachers and adolescents value intellectual humility. As with any research, we really don't know what we'll find, but we're excited to learn.

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