People have vivid memories of P.E., a study finds. That affects how active they are as adults.

THINK FOR A MOMENT about your school gym classes.

Did you just grin with fond reminiscence or reflexively shudder?

A revealing new study suggests that these disparate responses to memories of physical education classes are both common and consequential.

How we felt during gym classes years or decades ago may shape how we feel about exercise today and whether we choose to be physically active, the study finds. The result may have implications for our understanding of exercise motivation and also for how we should introduce our children to sports and movement.

About two-thirds of adults in the Western world rarely if ever exercise, health statistics tell us. There are many reasons so many of us are sedentary, but most behavioral scientists agree that our attitudes about exercise play a defining role. If we expect exercise to be fun and enjoyable, we often will exercise. If not, we won't.

How we develop these beliefs about physical activity has been unclear, though.

So a group of scientists at Iowa State University in Ames began to wonder recently whether our feelings about moving might have roots in gym classes, which are often the first introduction many of us have to formal exercise.

To find out, they created a long, specialized online questionnaire that asked people to ruminate on and rate their memories of gym class and how they felt about exercise now, using an elaborate numerical scale.

The questionnaire also asked people about their physical activity habits today and how much time they spent in motion or in a chair, especially on weekends.

Perhaps most compelling, the online form invited them to describe, in their own words, their single best or worst memory of gym class and how they felt about exercise now, using as much detail as they chose.

The researchers posted the questionnaire on a website devoted to academic studies and invited anyone interested to complete the form.

They wound up with responses from more than a thousand men and women aged between 18 and 40. Completing the form seems to have been cathartic for these respondents, given the depth and specificity of many of their responses.

People's memories of gym class turned out to be in fact surprisingly "vivid and emotionally charged," the researchers write in the study, which was published this month in the Translational Journal of the American College of Sports Medicine. And those memories had long shadows, affecting people's exercise habits years later.

The most consistent associations were between unpleasant memories of P.E. classes and lingering resistance to exercise years later, the researchers found. People who had not enjoyed gym class as children tended to report that they did not expect to like exercise now and did not plan to exercise in the coming days. People who had found pleasure in gym class, on the other hand, were more likely to report that they expected exercise to be enjoyable and that they were active on weekends.

The reasons people gave for enjoying gym — or not — were also telling. Many said that they had hated being chosen late or last for sports teams, or felt embarrassed about bumbling sports performances.

Quite a few also reported discomfort undressing in front of other students, and some described bullying and insults, including from gym teachers.

Many also said they had dreaded the fitness tests that are common in P.E.

Of course, some people harbored pleasant memories of gym classes, often involving athletic success and competence.

"It was a bit surprising just how strong people's memories were" of their P.E. classes, says Matthew Ladwig, a graduate student at Iowa State University who conducted the study with Panteleimon Ekkekakis and Spyrrioula Vazou.

"For some of them, the classes were two or three decades in the past, but they had not forgotten," he says, and their memories apparently continued to color their attitudes toward exercise today.

The people involved in this study, though, were a self-chosen group who happened to see the questionnaire, so their responses may not be typical of everyone's. The results also rely on memories and recall, which can be unreliable. And the findings may have been influenced by reverse causation, meaning that unathletic young people disliked gym class and grew up to be sedentary because they were not athletic, and not because they did not like P.E.

But the results do remind us that how we feel about exercise is important in prompting us to move or remain still and that, in order to instill positive attitudes toward exercise, we may want to rethink some of the emphases in school-based physical education programs, Mr. Ladwig says.

If sports are involved, "choose teams randomly," he says, and, for younger children, de-emphasize competition altogether, promoting activities like dancing or yoga instead. Consider, too, playing down frequent fitness testing, which demoralized so many study respondents, he says.

Maybe also offer children more options, including unconventional ones. "Gardening is physical activity and some kids might love it a lot more than team sports," he says.

"It would be great," he concludes, "if P.E. classes could teach kids that moving is fun."