

# The most painful days of your life: School desks and chronic back pain

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Undersize school chairs, low desks and overweight backpacks are contributing to chronic back pain in adolescents, according to a study from researchers in Portugal to be published in the *International Journal of Human Factors and Ergonomics*.

Ana Assunção and colleagues in the Biomechanics and Functional Morphology Laboratory, at the University of Lisbon, carried out a cross-sectional study of 138 twelve to fifteen-year olds of differing maturity to examine the effect of a mismatch between [school](#) furniture dimensions, the weight of their school bags and the student's anthropometric characteristics.

They found that almost two thirds (80) of the students studied suffered from back [pain](#) and that large differences between desk height and elbow height was associated with a greater likelihood of the adolescents having this problem. Girls were more likely to suffer from the desk height discrepancy than boys; 59% of girls and 47% of boys. "Our results also showed that there was no association between backpack weight, [body mass index](#) (BMI) and back pain," the team says.

"These results highlight the importance to study the [school environment](#) to establish preventive programmes for back pain in youths," the researchers say. They point out that the number of school-aged children and adolescents reporting frequent episodes of back and neck pain and headache has increased in the last few decades and that it is now recognised that people suffering during childhood are likely to suffer

back pain in adulthood too, unless the problem is treated appropriately.

The researchers concede that back pain is, of course, a multi-factorial problem that results from an interaction of different risk factors, such as, age, family clinical history, injury, gender, lifestyle, sport, stress and anxiety. However, ergonomic factors such as a student's desk and chair dimensions are also likely to play a significant role. This is especially true given that students spend considerable amounts of time sitting at a desk, with [physical activity](#) and sports at a low in many educational establishments despite today's supposed drive to make everyone more active. The World Health Organisation recommends at least 60 minutes of moderate to vigorous physical activity every day.

"These results highlight how relevant it is to study the school environment in order to establish preventive programs for back pain in children and adolescents, not only health wise, but also in terms of school education," the team asserts. "These results show the importance of promoting healthy lifestyles in what concerns physical activity and a balanced nutrition."

**More information:** "Mismatch of school furniture and back pain in adolescents with different maturation levels" in *Int. J. Human Factors and Ergonomics*, 2013, 2, 66-81.

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