

# Children with type 1 diabetes miss more school, study suggests

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Children living with type 1 diabetes miss an average of nine more sessions of school a year than do children without the condition, a new study led by Cardiff University has found.

Published today in the journal *Diabetes Care*, the research found that children with type 1 [diabetes](#) who have the healthiest blood glucose levels miss seven more sessions per year, while those who experience challenges in managing their diabetes are absent for 15 more sessions a year. Absence is measured in sessions, which is half a day.

The team found that while many children with diabetes still perform well in their education both at age 16 and university participation, those facing struggles to manage their [blood glucose levels](#) achieved results that are five grades lower in GCSEs than children without the condition—for example 3 Bs and 5 Cs vs. 8 Bs.

They are also less than half as likely to attend university as children without type 1 diabetes.

The team's research—a quantitative study which used data from schoolchildren (aged 6-18) in Wales between 2009 and 2016—also took into account factors such as a child's household socioeconomic status, neighborhood deprivation, gender, and age.

The researchers found that these personal and family characteristics are likely to be associated with effective self-management of diabetes, and in turn, have an effect on educational attainment.

"Our research suggests children living with type 1 diabetes face many additional challenges in [school](#), including higher absences," said lead author Dr. Robert French, a senior research fellow at Cardiff University's School of Medicine. "Children living with diabetes and managing the condition achieve the same grades at age 16 as their peers without diabetes—and are equally as likely to progress to higher education. This is quite remarkable, given that they miss more school sessions than those without the condition.

"Where we do see large differences in educational outcomes is for those children facing struggles in managing their diabetes. However, our data suggests that this is most likely the result of social rather than [biological factors](#) and something that schools have the capacity to improve."

Type 1 diabetes is one of the most common chronic childhood conditions in the UK, affecting one in 250 children, although it can be diagnosed later in life. An autoimmune condition, it is not the result of lifestyle factors, and requires self-injections of insulin regularly, or the use of an insulin pump to control blood sugar levels.

Shelby Sangha was 17 when she was diagnosed with Type 1 diabetes. Now aged 23, she works for West Midlands Ambulance Service as an Emergency Medical Dispatcher.

"I absolutely hated school at the best of times, and then my whole world quite literally came crashing down when I discovered that I was diabetic. I didn't want to believe I had diabetes or need treatment because my friends didn't—so why should I? I kind of pushed it to the back of my mind and tried to forget about it," she said.

"School and exams were a whirlwind, a very big emotional roller coaster. No one really had a clue what diabetes was or what it entailed, me included. I don't even think I had any support from my school, if I remember correctly. I think much more needs to be done to raise awareness of the impact of diabetes on children and young people. As well as support for them, talks in schools or patient referral groups would be a huge benefit," Ms. Sangha concluded.

Rebecca Barlow-Noone was diagnosed with Type 1 diabetes when she was 18. Now aged 26, she has recently completed a masters degree and has been part of the research project's advisory group.

"Unstable blood sugar levels have a significant impact on your well-being, concentration levels and day-to-day life, so I am not surprised by the findings in this study" she said. "I was lucky to have support at home when I was diagnosed, but even so, Type 1 diabetes can be an isolating condition and there are real barriers that children and young people face. Worryingly, In the current cost of living crisis, even support is not enough—particularly if children with diabetes are missing school meals. It makes this complex condition even more difficult to manage. It's really important that we understand how these extra factors—the [social determinants](#) such as where we grow up and the education we receive—impact health."

Dr. French added, "Living with diabetes can affect every aspect of a child's life, from family, friendships and their self-esteem, and it is complex to manage with many factors at play.

"It also places a huge burden on the NHS in terms of costly interventions. Type 1 diabetes is estimated to account for £1bn in direct costs for the NHS, including diabetes-related heart disease, [kidney failure](#) and foot amputations) and £0.9bn in [indirect costs](#), for example, absence from work due to ill health and impact on mental health.

"This study is important for how we address the health and education challenges for young people with diabetes in the future. Schools and healthcare teams need to work together to provide more support to children and their families. This will ensure that children living with diabetes can thrive and reach their full academic potential."

Dr. Faye Riley, Research Communications Manager at Diabetes UK, added, "Every child with diabetes deserves the same education, experiences and opportunities as their peers. This study encouragingly indicates that although children with type 1 diabetes tend to miss more school than those without the condition, their condition does not

negatively impact their educational attainment and likelihood of progressing to [higher education](#) at the age of 16.

"While the research found that those with higher blood sugar levels achieved [lower grades](#) than those with levels in a target range, it does not show that high blood sugar levels are the direct cause of this. Instead, it is likely that this link is explained by other factors, such as family support and socioeconomic factors that are associated with both higher blood sugars and poorer educational outcomes. Health inequalities exist across diabetes care, and these findings are an important reminder that schools and [healthcare professionals](#) must work together to ensure that all [children](#) with type 1 diabetes and their families have the support they need to manage the condition, and to thrive."

**More information:** Robert French et al, Educational Attainment and Childhood-Onset Type 1 Diabetes, *Diabetes Care* (2022). [DOI: 10.2337/dc21-0693](#)

Provided by Cardiff University

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