

# Concerns that methadone children may have problems at school

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Credit: AI-generated image ([disclaimer](#))

Children prenatally exposed to methadone or Subutex (buprenorphine) are prone to developing cognitive difficulties. According to one researcher, these children still need close follow-up after they begin school.

A doctoral thesis on [cognitive abilities](#) in four-year-olds prenatally exposed to [methadone](#) or Subutex has found that these children develop more problems involving [attention span](#), fine [motor coordination](#), self-control of behaviour, and [working memory](#) – symptoms known collectively as disorders of behavioural and [emotional regulation](#) .

Researcher Carolien Konijnenberg has studied a group of children born throughout Norway in 2005 and 2006, following them from their birth until school age and examining how they think and process information.

Dr Konijnenberg compared the subjects to a control group not prenatally exposed to Subutex, methadone or narcotic substances. Most of the mothers in the study had been taking methadone or Subutex before becoming pregnant, many of them for several years. The majority of mothers have since remained drug-free.

## **May have impacts on daily life**

Some of the children in the study exhibited [attention problems](#) and/or had difficulty drawing figures or tracking fast-moving objects such as a ball.

"Disorders of behavioural and emotional regulation can be particularly challenging when a child is learning to read and write," explains Dr Konijnenberg. "Abilities such as concentration and self-control are critical for planning, solving problems and inhibiting impulsive behaviours. These are vitally important for children's everyday functioning."

## **Normal intelligence, but may lose interest in learning**

Dr Konijnenberg is concerned that these challenges may lead to

problems in school, causing these children to fall behind – with a risk they will subsequently lose interest in learning.

"These are [vulnerable children](#) who should be followed up after starting school as well. Their intelligence is on a par with other children's so there is a good foundation on which to ensure progress."

Dr Konijnenberg stresses that not all the children in the study have more problems than the control group. Many fare very well.

## **Multiple causes of problems**

She believes a combination of factors is responsible for the children's problems.

As babies, many of the children suffered symptoms of withdrawal from exposure to methadone or Subutex in the womb. Withdrawal can be extremely stressful over an extended time and can lead to elevated levels of the stress hormone cortisol, which in turn can lead to memory problems.

Methadone and Subutex disrupt neurotransmitters in the human brain, inhibiting the efficiency of impulse transmission between nerve cells. The environment in which children live can also affect their cognitive abilities.

"Most of these children live with their biological mother," notes Dr Konijnenberg. "Many are single mothers who have struggled with mental health problems, so this can have an impact on their children as well."

## **Children better off when pregnant mothers receive treatment**

Research has not yet compared the children of mothers undergoing opioid maintenance treatment (OMT ) with the children of heroin users. But there are many other studies on mothers who continue to use narcotic substances during pregnancy.

"Comparing the results of these studies, we see that the OMT children fare much better. Despite the disorders of behavioural and emotional regulation that some of the OMT children exhibit, in general they do well, and none appear to have suffered major harm," concludes Dr Konijnenberg.

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