

Early maturation in girls linked to less physical activity and poorer quality of life, research finds

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A series of studies from the Department for Health have found that girls who reach maturity earlier than their peers are less active and more likely to report a poorer health-related quality of life.

The researchers found that being less active and having a poor quality of life as a result of maturity can be linked to a combination of negative self perceptions and lower levels of perceived peer acceptance.

Children of the same age can differ considerably in their degree of biological maturation, with some entering puberty at a much younger or older age than their peers.

Early maturation, which is largely controlled by genetic effects, is associated with greater gains in height, weight and fat mass in girls. This results in a physique that is considered less suitable for successful engagement in many forms of [physical activity](#) and less consistent with western ideals of attractiveness.

In girls, early maturation has also been associated with increased distress, anxiety, depression, and greater involvement in drinking, smoking, and drug taking.

Dr Sean Cumming from the Department for Health who led the studies said: "The decline in physical activity across adolescence is well established but influence of biological maturity on this process has been largely overlooked.

"There is good reason to believe that variation in biological maturation contributes to [health outcomes](#) in adolescence, especially at the extreme ends of the maturity continuum.

"What is promising; however, is that the effects of maturation on health outcomes in [adolescent girls](#) appear to be mediated by perceptions of the self. That is, early maturing girls perceive themselves as being less [attractive](#), sporty, and physically fit. If early maturing girls can be encouraged to view [puberty](#) as a normal and attractive part of maturational process, and not a barrier to physical activity, then they may be more likely to remain active and healthy throughout adolescence."

The research, funded by the British Academy, included over 500 female students aged from 11 to 14 (Years 7 to 9). The researchers assessed the biological maturity of the participants. Percentage of predicted adult stature attained at measurement was used as an index of [maturation](#) status.

Quality of life was assessed using the KIDSCREEN-10 index which measures quality of life over 10 dimensions: physical well-being, psychological well-being, mood and emotions, self-perceptions, autonomy, family relationships, relationships with peers, school environment, bullying and financial resources.

Dr Cumming added: "Peers also appear to play an important role in relation to the health behaviours of early maturing girls. Whereas those early maturing girls who report high levels of peer acceptance are as active as 'on time' and 'later' maturing girls, those who report low peer acceptance are markedly less active. Puberty results in a series of physical and functional changes, many of which have important social stimulus value. As such, it is not surprising that the perceptions of reactions of others also play an important role in this process."

Provided by University of Bath

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