EARLY EXPOSURE TO DIFFERENT KINDS OF FATHERS ALTERS PUBERTY IN DAUGHTERS

A study by a University of Arizona researcher and a colleague sheds light on why girls growing up without their fathers tend to go through puberty earlier than their peers—a known risk factor for teen pregnancy and an array of health problems in adolescence.

Professor Bruce J. Ellis, the John & Doris Norton Endowed Chair in Fathers, Parenting, and Families at the UA Norton School of Family and Consumer Sciences, and Jacqueline M. Tither at the University of Canterbury in Christchurch, New Zealand, have just published their study in the journal Developmental Psychology.

“We know that father absence and early puberty go together. But we haven’t known why and haven’t known how. Our study was meant to figure out that issue,” said Ellis. “By controlling for both genetic effects and family-level confounds, our results demonstrated a cause-and-effect relationship: different amounts of exposure to different kinds of fathers altered daughters’ sexual development.”

Tither and Ellis developed a special methodology to test for the impact of fathers on the age at which daughters begin to menstruate. This involved comparing 68 pairs of sisters from families in which the parents divorced and the dad moved out (father absence) with 93 pairs of sisters from intact families (father presence) in New Zealand. Sisters were full biological siblings and were an average of 7 years apart in age. In the father-absent families, the biological parents split up prior to the younger sister getting her first period. So, younger sisters spent an average of 7 more years living in disrupted families without their fathers, compared with their older sisters.

The study showed that these younger sisters, who experienced more father absence, went through puberty earlier than their older sisters. “This finding indicates that something about children’s experiences in their families, and particularly about the presence of different members of the families in the home, actually alters the reproductive axis and timing of puberty,” Ellis said.

Why does this happen? The evolutionary explanation is that children adjust their development to match the environments in which they live. “In the world in which humans evolved, dangerous or unstable home environments meant a shorter lifespan, and going into puberty earlier in this context increased chances of reproducing and passing on your genes,” Ellis said.

Ellis noted that divorced families can have other factors that stress its members, such as alcoholism, drug use, depression, family violence or criminal activity. More important than the presence or absence of the fathers was their characteristics. “It’s not enough to simply have a cardboard cut-out of a father sitting on the couch. What the father does is critical,” said Ellis.

Ellis said the most dramatic finding of the study was that in divorced families in which the father had a history of socially deviant behavior, the younger sisters went through puberty almost a
year earlier than their older sisters. They also went through puberty about a year earlier than other younger sisters who were not exposed to dysfunctional fathers. Thus, girls with high levels of exposure to stress early in life (socially deviant fathers), who then had that stressor removed (divorce and exit of the father from the home), tended to go through quite early puberty.

“This actually concurs with international adoption studies showing that girls from third-world countries who had a lot of stress in early childhood and were adopted into Western societies tend to have very high rates of early puberty. It is consistent with there being a sensitive period for changes in stresses and life situations. And that could be relevant for parents,” Ellis said.

In total, Tither and Ellis’ study demonstrated a causal effect of fathers on daughters’ sexual development and provided a new explanation for this finding: It’s not that life without father, in and of itself, causes early puberty; indeed, the absence of normative fathers from the home had no effect on when daughters got their periods. Rather, it is the transition in early childhood from living to not living with a troubled father that speeds sexual development.

The radical implication of this work is that common processes operating in families can substantially alter the timing of puberty. These results highlight modifiable causes of early puberty that could be targeted for intervention.

Tither and Ellis’ study was supported by a grant from Fathering the Future Trust, Christchurch, New Zealand.