Father absence and age at first birth: a cross-cultural investigation

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Considerable research has demonstrated that the presence or absence of fathers in childhood is correlated with their children's reproductive development and their reproductive outcomes in adulthood. A number of hypotheses have been proposed to explain these correlations. These include the influence of the presence or absence of paternal investment; the influence of psychosocial stress caused by the lack of a father figure; as well as hypotheses which argue that father absence is a useful indicator of aspects of the environment. In order to tease apart these different (not necessarily mutually exclusive) hypotheses for how fathers influence their children's reproductive development, we review the existing empirical literature on whether father absence or presence influences their children's age at first birth. This includes literature from a number of disciplines, including demography, anthropology and psychology; and literature from all word regions. We find that studies of Western populations consistently show that father absence leads to earlier first births for both girls and boys (though the evidence for boys is limited). Studies in non-Western populations, however, show a more variable picture, with father absence sometimes accelerating first births, sometimes having no influence and sometimes delaying first births, especially for boys. We discuss the implications of these results for the hypotheses linking father absence to their children's reproductive behaviour.

Introduction

In 1982, Draper & Harpending wrote a seminal paper suggesting that father absence should influence the subsequent life history strategies of their offspring because it is an indicator of the mating strategies prevalent in the population. Because paternal investment is variable, both within and between populations, children growing up in father-absent families should expect to find that paternal investment is rather low in their particular environment, whereas children growing up with fathers present and heavily involved in their lives should expect a future environment where fathers invest substantially in their offspring. Father absent children should therefore develop a life history strategy involving relatively early reproduction, short-term mating and little paternal investment; children with present fathers should develop a reproductive strategy involving later reproduction and higher paternal investment (since reproduction is delayed until a suitable, high investing mate is found).

The father absence literature has since expanded considerably, and begun to focus on the mechanisms which might help explain such associations between father absence and children's reproductive development: Psychosocial Acceleration Theory (Belsky, Steinberg and Draper, 1991) and Child Development Theory (Ellis 2004) both assume that father absence causes psychosocial stress, which is the mechanism that speeds up puberty and thus leads to earlier reproductive development. Chisholm (1993) has also weighed into this debate, and formulated a slightly different argument, based more securely in evolutionary life history theory, but which also predicts that father absence should be associated with accelerated reproduction development: he

argued that indicators of a poor quality, high mortality environment (such as father absence) result in the development of faster life histories so that individuals ensure that they achieve reproduction before death.

The empirical evidence testing these hypotheses supports the prediction of early puberty and sexual and reproductive behaviour in girls whose fathers were absent during their childhood (considerably less research has been conducted on boys). But this literature has strayed away from its anthropological roots by focusing very largely on WEIRD populations (WEIRD is the acronym coined by Henrich and colleagues (2010) to describe the populations most psychological research is drawn from, and which is a rather small and unrepresentative sample of the human species: Western, Educated, Industrialised, Rich and Democratic). This limits the generalisability of these research findings.

However, these results are somewhat surprising from the point of view of a simple model of paternal investment, which would predict that greater paternal investment would be correlated with better health, and social and economic position of their children, and therefore an earlier entry into reproductive behaviour: i.e. father absence should be correlated with *slower* reproductive development and *later* first births. Somewhat independently, a related literature in anthropology has recently developed which has investigated similar relationships – i.e. how father absence/presence affects their children's reproductive outcomes – but in non-WEIRD populations (often using small-scale datasets, involving subsistence populations). This literature tends to be driven by an interest in understanding exactly what it is that fathers do for their children, for example, providing nutritional resources, or their roles in organising marriage or initiation ceremonies, or other activities that help launch children into reproductive careers. This literature has found in some cases that father absence actually delays, rather than accelerates, first births, as would be predicted from the simple model of paternal investment (e.g. Shenk et al 2013).

In summary, there are several models which have been proposed to explain why father absence should be correlated with the reproductive development of their children (which are not necessarily mutually exclusive). Here we review the existing empirical literature on father absence and age at first birth, in order to shed light on this debate.

Methods

We reviewed the published empirical literature on associations between father absence and age at first birth, in the English language. All studies investigated statistically the correlation between father absence and the age at first birth of their offspring. We focus on age at first birth as this is the reproductive outcome for which most data is available cross-culturally. We investigate the effects of father absence on both girls and boys, though most literature focuses on girls. We, somewhat arbitrarily, divide our sample into WEIRD and non-WEIRD populations (while recognising that there may be considerably variation in both categories, particularly non-WEIRD populations).

Data

We find:

- for WEIRD populations,
    - 14 studies on girls (5 US, 2 UK, 1 US+UK, 2 Australia, 2 New Zealand, 2 Finland)
    - but only 3 studies on boys (1 US, 1 UK, 1 Finland)
- for non-WEIRD populations,
    - 27 studies for girls (18 sub-Saharan Africa, 2 South America, 2 Asia, 1 Caribbean, 1 historical Europe)
    - 6 for boys (3 South America, 1 sub-Saharan Africa, 1 historical Europe, 1 aboriginal Australia)

Results

For the WEIRD populations, almost all find that father absence is significantly associated with daughters' age at first birth and that this association is, in all but one case, a positive association, i.e. father absent girls have earlier first births (12 of 14 studies find significantly accelerated first births in father absent daughters; 1 finds either a delay or no effect depending on how father absence is operationalised – death versus divorce – and the remaining study finds no significant effect: see Figure 1). For boys, 2 of 3 studies find significantly accelerated first births for father absent sons, and 1 study no significant effect.

For non-WEIRD populations the picture is much more mixed: while 8 of 27 studies find that father absence significantly accelerates daughters' first births, 3 find a significant delay in first birth for father absent girls, 1 finds either a delay or acceleration depending on how father absence is measured and 15 studies find no effect. For boys, in 3 of 6 studies there is a significant delay in first births if fathers are absent, and in 3 studies there is no significant effect of father absence (no study finds an acceleration in first births).

Conclusions

Contrary to the predictions of the Draper & Harpending (1982), Belsky, Draper & Steinberg (1991) and Chisholm (1993) models, we do not find a consistent accelerating effect of father absence on their children's age at first birth. While in many cases, particularly in high income, low fertility populations (where the nuclear family and substantial paternal investment is the norm), the predicted association is seen; in low income, high fertility populations, this association sometimes disappears and sometimes reverses (i.e. father absence is associated with later first births). This supports a context-specific model whereby the absence of the father may sometimes accelerate, sometimes delay and sometimes have no effect on their children's reproductive development. Such differences may depend on the role of the father in that particular society, as well as environmental quality.

References

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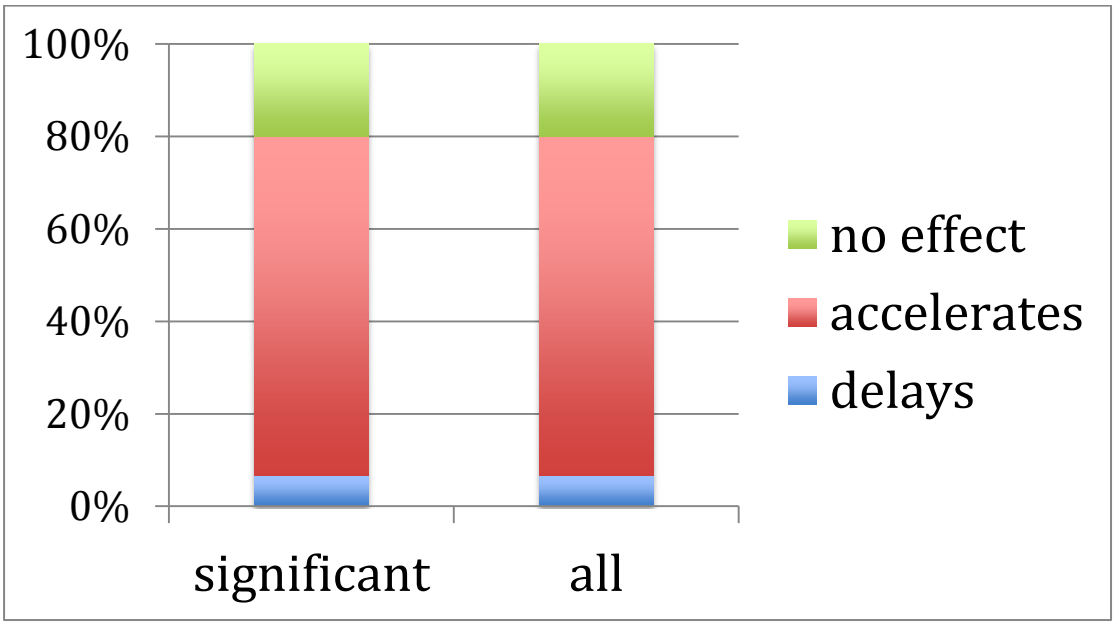
Figure 1: percentage of studies which find an accelerating, delaying, or no effect of father absence on their daughters' age at first birth, presented for both significant results only and for all analyses regardless of statistical significance

a) WEIRD populations



b) non-WEIRD populations