



## Pacific Islands Families Study: Food insecurity during pregnancy and secondary school educational achievement

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The nutritional environment in early life is a key factor for brain development and function. It is important to understand the relationship between early life nutrition and academic achievement in adolescence. The Pacific Islands families (PIF) birth cohort<sup>(1)</sup> were born in the year 2000. When their child was 6 weeks old mothers were asked questions concerning food security over the last year. Two binary measures of food security were derived as previously used in PIF and also by the Ministry of Health (MOH). Records of academic achievement for 649 youth were obtained from the National Certificate of Educational Achievement database in 2019. Highest qualifications and a composite ranking score allowed achievement to be assessed at levels 1, 2 and 3 of NCEA and for University Entrance (UE, lowest to highest). More females (27%) than males (18%) achieved UE as their highest qualification and more males (40%) than females (31%) achieved level 1 or 2 as their highest qualification. UE was achieved by 25% of those born into food secure households and 17% from food insecure households. Logistic regression demonstrated that being female increased the odds of achieving UE 1.8 fold and food security a further 1.6 fold. The prevalence of food insecurity was not different by sex but high at 29% and 42% using the PIF and MOH measure of food insecurity respectively. This work emphasises the importance of maternal and early life food security for subsequent academic achievement and the well-being of future generations.

**Keywords:** food insecurity, birth cohort, academic achievement, Pacific Islands

### Ethics Declaration

Yes

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### Reference

1. Paterson J, Tukuitonga C, Abbott M *et al.* (2006) *The New Zealand Medical Journal* **119** (1228) U1814.