

# Adolescents Follow the Healthy Dietary Habit of Parents

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## INTRODUCTION

An unhealthy diet in adolescence predisposes to obesity and non-communicable diseases. Adolescents from underprivileged families may be more vulnerable due to difficulties in securing a healthy food environment.

**Objective:** To identify family factors associated with unhealthy diets of adolescents.

## METHODS

**Design:** Cross sectional questionnaire survey

**Subjects:** 248 adolescents aged 10 to 19 years and their parents

Dietary data collected by three questions embedded in a health survey administered from 2016 February to 2017 April

**Outcomes:** Self-reported daily consumptions of the number of servings of 1) fruits and vegetable (FV) and 2) sugar sweetened beverages (SSB) in adolescents

**Family factors:** Household income, household size and parental factors (daily consumption of FV and SSB, marital status, education, employment and health status)

## Analysis:

The associations between the daily consumption of FV and SSB of adolescents and family factors were assessed by one-way ANOVA for continuous data, by chi-square test for categorical data, and by multivariate linear regressions for adjusted effect.

## RESULTS

### Subject characteristics

Table 1. Subject characteristics

	N=248
<b>Adolescents</b>	
Age, mean (SD)	12.44 (2.10)
Male, n (%)	121 (48.8%)
Servings of dietary consumption, mean (SD)	
FV	2.02 (1.27)
SSB	0.72 (0.83)
Adherence to dietary guideline, n (%)	
FV ( $\geq 5$ servings)	4 (1.6%)
SSB ( $\leq 1$ serving)	214 (87.7%)
<b>Household</b>	
Monthly household income, n (%)	
<HK\$10,000	32 (13.0%)
HK\$10,000 to 19,999	128 (51.8%)
$\geq$ HK\$20,000	87 (35.2%)
Household size, mean (SD)	
4 or below, n (%)	164 (71.3%)
Above 4, n (%)	66 (28.7%)
<b>Parents</b>	
Age, mean (SD)	43.00 (5.91)
Male, n (%)	14 (5.6%)
Servings of dietary consumption, mean (SD)	
FV	2.95 (1.52)
SSB	0.45 (0.71)
Adherence to dietary guideline, n (%)	
FV ( $\geq 5$ servings)	34 (13.8%)
SSB ( $\leq 1$ serving)	214 (89.2%)
Currently married, n (%)	199 (81.2%)
Education level, n (%)	
Primary or below	163 (66.8%)
Secondary	63 (25.8%)
Tertiary or above	18 (7.4%)
Currently working, n (%)	98 (40.2%)
Any morbidity, n (%)	
Diet-related (Diabetes/ CVD/ cancer)	28 (11.3%)
Mental	31 (12.7%)

### Associations between family factors & adolescent dietary habit

#### a) Univariate analysis

- Parents with older age and consumed less FV tended to be associated with lower consumption of FV in the adolescents (-0.14,  $p=0.032$  and 0.34,  $p<0.001$ , respectively).
- Compared to families with monthly household income between HK\$10,000 to HK\$19,999, those with higher income had significantly less intake of SSB among the adolescents (-0.28,  $p=0.040$ ).

#### b) Adjusted effect

Table 2. Adjusted effect of family factors on adolescent dietary habit

	Consumption of FV among adolescents (N = 247)			Consumption of SSB among adolescents (N = 244)		
	Coefficient	95% CI	P-value	Coefficient	95% CI	P-value
<b>Household</b>						
Monthly household income						
HK\$10,000 to 19,999	(reference)			(reference)		
<HK\$10,000	0.598	(0.036, 1.159)	0.037*	-0.454	(-0.861, -0.047)	0.029*
$\geq$ HK\$20,000	-0.055	(-0.418, 0.309)	0.767	-0.203	(-0.454, 0.049)	0.113
Household size						
4 or below	(reference)			(reference)		
Above 4	0.035	(-0.345, 0.415)	0.855	-0.083	(-0.350, 0.184)	0.541
<b>Parents</b>						
Servings of dietary consumption						
Currently married	0.371	(-0.110, 0.852)	0.130	-0.180	(-0.525, 0.165)	0.304
Education level						
Primary or below	(reference)			(reference)		
Secondary	-0.283	(-0.656, 0.091)	0.137	0.047	(-0.214, 0.307)	0.725
Tertiary or above	0.411	(-0.246, 1.068)	0.219	-0.182	(-0.652, 0.288)	0.445
Currently working	0.142	(-0.211, 0.495)	0.429	-0.093	(-0.340, 0.155)	0.462
Any morbidity						
Diabetes/ CVD/ cancer	0.033	(-0.544, 0.610)	0.910	-0.139	(-0.545, 0.268)	0.502
Mental illness	-0.152	(-0.658, 0.354)	0.554	0.285	(-0.074, 0.644)	0.119

## CONCLUSION

- There was a **strong association between parent and adolescent daily consumption of FV.**
- The reasons for healthier dietary patterns in adolescents with very low household income deserves further research.
- Parental role model** should be emphasized in the **promotion of healthy eating for adolescents.**