



## HEALTH RELATED QUALITY OF LIFE AND ACADEMIC PERFORMANCE AMONG AJMAN UNIVERSITY OF SCIENCE & TECHNOLOGY STUDENTS

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### ABSTRACT

Over the past several decades, researchers have suspected and confirmed various links between breakfast consumption and adolescent academic performance, although the reasons for these cognitive outcomes are not fully explored because they haven't determine what roles these micro and macronutrients play in the outcomes of observed academic behaviour, though a positive relationship has been drawn between breakfast consumption and cognitive abilities. So this research is designed to investigate the relationship between breakfast habits and adolescents' academic performance among Ajman University of Science & Technology students during the period of the first semester of the academic year 2015-2016.

**KEYWORDS:** Adolescence, Breakfast, Academic Performance, Family Structure.

### INTRODUCTION

The term breakfast is used in a number of ways. Studies provide varying definitions of breakfast including; the first meal of the day; eating within two hours of waking; eating after overnight fasting. Numerous publications have focused on the association between breakfast and academic performance with sugar, micronutrients and omega-3 fatty acids at the centre of attention.<sup>[1-5]</sup>

The main aim of these studies is to evaluate the effects of varying breakfast regimes on academic performance. The conclusion from most of these studies has a good consensus that eating breakfast regularly is associated with improved academic performance due to an improved mental health status.

Several explanations have been offered for this relationship. According to a study, breakfast and especially the intake of cereals is beneficial due to its effect on brain glucose after a night-time fast<sup>6</sup>. As in experimental studies, regular consumption of breakfast cereals has been shown not only to lead to positive mood, but also to improve memory and driving performance.<sup>[6]</sup>

The effect of breakfast in reducing fatigue is probably the most important factor contributing to improve the academic performance in adolescents.<sup>[7]</sup>

In a review of dietary habits in adolescents, bull found that skipping breakfast was related to dieting among girls and to people from different regions.<sup>[8]</sup>

Several factors might influence the association between university grades and eating breakfast regularly. Parents may play one of the most important roles of all, as they set an example for their children in healthy eating and lifestyle habits, as parents must not only support regular breakfast consumption, but also seek to modify students' nutritional intake based on the most current research available in the field<sup>9</sup>. However, a change in family structure might influence academic performance.<sup>[10]</sup>

The purpose of this study is to examine the association between breakfast consumption and academic performance of Ajman University of Science & Technology students.

### METHODS

#### Participants and subjects

The study was based on data from the students of Ajman University of Science & Technology (AUST). A cross sectional survey was conducted among students of AUST during the 1<sup>st</sup> semester of 2015/2016.

350 students participated in the study questionnaire. Information about AGPA was missing for 19 participants because of data coupling error, so these participants were excluded from the study, leaving 331 participants.

### DEPENDENT VARIABLES

#### AGPA

Participants were asked to fill in the AGPA recorded in their university record book. The grade scale is from 1 (lowest) to 4 (highest). An average grade score for each

participant was calculated from the six grades. The variable was dichotomised between those with average grade  $\leq 2$  and  $> 2$ .

**INDEPENDENT VARIABLES**

**Having breakfast**

The question asked was: ‘How often do you eat breakfast in an ordinary week?’ The answering alternatives were never, 1-2 times a week, 3-4 times a week, 5-6 times a week and every day. In one of the analysis we dichotomised between those who never had breakfast ( $\leq 3$  times per week) and often ( $>3$  times per week).

**Control variables**

**Gender**

The possible categories were either a female or a male.

**Educational level of parents**

As mentioned before parental education is a strong predictor for breakfast consumption and academic performance of their children. For the purpose of the analysis, the educational level was grouped into two major groups: high school and university.

**Family structure**

The variable was self-reported by the students. We divided the responses into two groups: living with both parents or living with one parent.

**Living**

Each student reported if they were living in campus or out campus.

**Soft drink consumption**

The following question was asked: ‘How much do you normally drink of soft drinks with sugar’. The variables were either one glass or less per day, or two glasses or more per day.

**Smoking**

The possible categories were as follows: yes OR no.

**Dieting**

The question asked was: ‘Have you ever dieted?’ with these answering alternatives: Yes or No.

**Level**

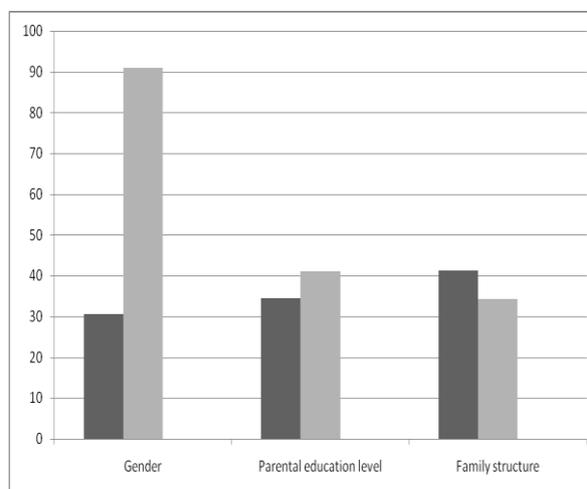
Students indicated their studying levels according to their current fall semester 2015/2016.

**RESULTS**

**Table1: Prevalence (%) of those eating breakfast  $\leq 2$  times per week by selected sociodemographic variables.**

	Participants n( % )	Avr GPA	Prevalence (%)
<b>Gender</b>			
male	111 (33.5%)	2.0 to 2.5	29.7
female	220 (66.5%)	2.0 to 2.5	45.5
<b>Parental education level</b>			
High school	29 (8.8%)	2.0 to 2.5	34.4
university	302 (91.2%)	2.0 to 2.5	40.7
<b>Family structure</b>			
Living with both parents	296 (89.4%)	2.0 to 2.5	40.8
Living with one parent	35 (10.6%)	2.0 to 2.5	34.3

As shown in Table 1, 30% of boys and 46% of girls have their breakfast  $\leq 2$  times per week, Parental education didn't show any effect on the frequency, As 34% of students whose parents have a high school education tend to skip breakfast, while 41% of those with a university degree are in the same category. Only 34% of students living with one parent tend to skip breakfast, while 41% of students living with both parent fall in the same category.



**Figure- 1 Prevalence (%) of those eating breakfast  $\leq 2$  times per week by selected sociodemographic variables.**

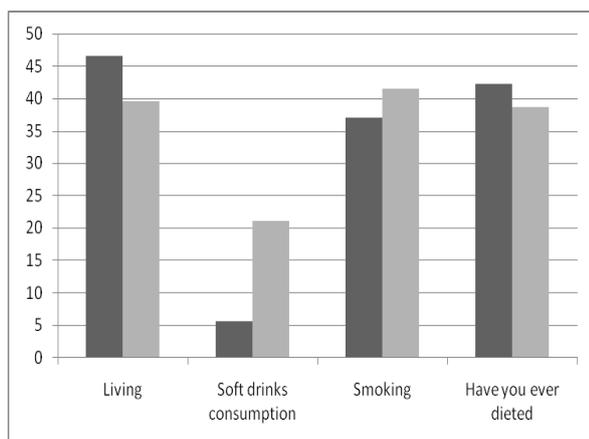
**Table: 2 Prevalence (%) of those eating breakfast  $\leq 2$  times per week by selected quality of life parameters**

	Participants n( % )	Avr GPA	Prevalence (%)
<b>Living</b>			
In campus	43 (12.9%)	2.0 to 2.5	46.5
Out campus	288 (87.1%)	2.0 to 2.5	39.2
<b>Soft drinks consumption</b>			
One glass or less per day	274 (82.8%)	2.0 to 2.5	39
Two glasses or more per day	57 (17.2%)	2.0 to 2.5	45.6
<b>Smoking</b>			
Yes	73 (22%)	2.0 to 2.5	35.6
No	258 (78%)	2.0 to 2.5	41.5
<b>Have you ever dieted</b>			
Yes	173 (52.3%)	2.0 to 2.5	42.2
No	158 (47.7%)	2.0 to 2.5	38.0

The frequency of skipping breakfast increases as adolescents live in campus. As we found in the study that 47% of students living in campus skips breakfast for more than 4 days per week, while only 40% of students living out campus skip breakfast in the same frequency.

This study shows that the frequency of the students who skip the breakfast due to soft drink consumptions (46%) is higher than those who takes less soft drinks (39%).

Smokers tend to have their breakfast more often than non-smokers, and the results showed Dieting students skip their breakfast more than non-dieting.

**Figure-2 Prevalence (%) of those eating breakfast  $\leq 2$  times per week by selected quality of life parameters**

## DISCUSSION

The main finding from this study is that eating breakfast doesn't influence academic performance among Ajman University of science & Technology, however, it shows that our study contra-indicates several studies that have confirmed that eating breakfast regularly improves academic performance among adolescents.<sup>[13]</sup>

The reason of the weakness of the study could be attributed to the size of the sample that is small, and also is limited to one university.

Even family structure didn't have an effect on breakfast consumption.

But we found that family structure has a significant association with academic performance.

Girls skipped breakfast meal more often than boys, the reason might be that girls have dieted more than boys. As found in other studies that skipping breakfast was related to dieting among girls.<sup>[13]</sup>

Students who consume less soft drink tend to have breakfast more often than those who consume more than two cups per day. As mentioned in a longitudinal study that reported the lower soft drink consumption the more breakfast consumption during adolescence.<sup>[14]</sup>

## REFERENCES

1. Gesch CB, Hammond SM, Hampson E, Eves A, Crowder MJ. Influence of supplementary vitamins, minerals and essential fatty acids on the antisocial behaviour of young adult prisoners. *British Journal of Psychiatry*, 2002; 181: 22–8.
2. Benton D, Haller J, Fordy J. Vitamin supplementation for 1 year improves mood. *Neuropsychobiology*, 1995; 32: 98–105.
3. Schnoll R, Burshteyn D, Cea-Aravena J. Nutrition in the treatment of attention-deficit hyperactivity disorder: an neglected but important aspect. *Applied Psychophysiology and Biofeedback*, 2003; 28: 63–75.
4. Wallin MS, Rissanen AM. Food and mood: relationship between food, serotonin and affective disorders. *Acta Psychiatrica Scandinavica Supplementum*, 1994; 377: 36–40.
5. Lahey MRS. Diet and its possible role in developmental disorders [online], 2002. Available at [www.bamfordlahey.Org](http://www.bamfordlahey.Org)
6. Smith AP. The concept of well-being: relevance to nutrition research. *British Journal of Nutrition*, 2005; 93(1): 1–5.
7. Chen X, Sekine M, Hamanishi S, Wang H, Gaina A, Yamagami T, et al. Lifestyles and health-related quality of life in Japanese school children: a cross-sectional study. *Preventive Medicine*, 2005; 40: 668–78.
8. Bull NL. Studies of the dietary habits, food consumption and nutrient intakes of adolescents and

- young adults. *World Review of Nutrition and Dietetics*, 1988; 57: 24–74.
9. Matthys, De Henauw, Bellemans, De mayer, & De backer, 2007; Ruglis & Freudenberg, 2010.
  10. Gilman SE, Kawachi I, Fitzmaurice GM, Buka SL. Family disruption in childhood and risk of adult depression. *American Journal of Psychiatry*, 2003; 160: 939–46.
  11. Smith AP. Breakfast and mental health. *International Journal of Food Sciences and Nutrition*, 1998; 49: 397–402.
  12. Smith AP. Breakfast cereal consumption and subjective reports of health. *International Journal of Food Sciences and Nutrition*, 1999; 50: 445–9.
  13. Lars Lien – is breakfast consumption related to mental distress and academic performance in adolescents?. *Public health nutrition*, 2006; 10: 422-428.
  14. Temple JL, Bulkley AM, Badawy RL, Krause N, McCann S, Epstein LH, Differential effects of daily snack food intake on the reinforcing value of food in obese and non-obese women. *Am J Clin Nutr*, 2009; 90(2): 304-13.