

Adolescent Breakfast Skipping: An Australian Study

Shaw, Mary E.

Abstract

Eating breakfast is important for the health and development of children and adolescents. This paper reports on the findings of an Australian survey of 699 thirteen-year-olds concerning the extent of skipping breakfast. Results indicated that approximately 12% of the sample skipped breakfast. Gender was the only statistically significant sociodemographic variable, with females skipping at over three times the rate of males. Skippers were more likely to be dissatisfied with their body shape and to have been on a diet to lose weight than were those who ate breakfast. However, in a follow-up telephone survey, the reasons given for skipping breakfast were almost exclusively lack of time and not being hungry in the morning. While North American school nutrition programs have considered poverty to be a key issue in breakfast skipping, these findings suggest that, for Australian adolescents, skipping breakfast is a matter of individual choice.

Breakfast is often referred to as the most important meal of the day. Evidence suggests that breakfast contributes to well-being in a number of areas. First, it is a central component of nutritional well-being, contributing to total daily energy and nutrient intake (Nicklas, Bao, Webber, & Berenson, 1993). Hill, Greer, Link, Ellersieck, and Dowdy (1991) analyzed the dietary records of children aged one to five and found that those who skipped breakfast had lower total energy intake than did those who ate breakfast; Nicklas et al. (1993) reported similar findings. A number of studies have also found that skippers have relatively worse intake of various vitamins and minerals (Hanes, Vermeersch, & Gale, 1984; Morgan, Zabik, & Stampey, 1986; Bidgood & Cameron, 1992; Nicklas et al., 1993). Nutrient intake during the rest of the day tends not to compensate for skipping breakfast (Nicklas et al., 1993). In fact, skippers are more likely to eat high-fat snacks and to have higher cholesterol levels than do breakfast consumers (Resnicow, 1991).

It has also been contended that skipping breakfast has deleterious effects upon various aspects of cognitive functioning. According to Pelican, O'Connell, and Byrd-Bredbrenner (1985), teachers report that hungry children are more likely to be apathetic, inattentive, and disruptive. This anecdotal evidence is supported by Meyers (1989), who has asserted that calorie deprivation can lead to children being so apathetic and listless that they withdraw from play, exploration, and social interaction. In particular, hunger in the morning can affect performance at school (Meyers, 1989). Pollitt, Gersovitz, and Gargiulo (1978), in a review of the literature, concluded that lack of breakfast may affect arithmetic and reading ability as well as physical work output. A study by Pollitt, Leibel, and Greenfield (1981) tentatively confirmed that fasting can affect cognitive functioning. Likewise, Connors and Blouin (1982/3) found that children who ate breakfast made fewer errors on a continuous-performance task and did better on an arithmetic test, while Simeon and Grantham-McGregor (1989) found that stunted or previously malnourished children, as compared with a control group, were adversely affected on cognitive tests by not eating breakfast. However, studies by Dickie and Bender (1982a, 1982b) found that missing breakfast had no effect on performance in arithmetic or on short-term memory and attention-demanding tasks, and Craig (1986) found no effect of breakfast on mental performance.

Breakfast has also been linked to long-term health. Eating breakfast was one of the "seven healthy habits" identified by Belloc and Breslow (1972) in the Alameda County Study. Nearly 15% of their sample rarely or never ate breakfast, and those who ate breakfast almost every day (and did not often eat between meals) reported slightly but significantly better physical health than skippers. In a follow-up of the same sample, Berkman and Breslow (1983) found that regular breakfast eaters had lower mortality rates, although these findings were not statistically significant.

Finally, missing meals can be seen as part of the voluntary restriction of food intake associated with eating disorders, such as anorexia and bulimia nervosa (American Psychiatric Association, 1987). Melve and Baerheim (1994) have suggested that skipping breakfast and other meals can be used as a possible indicator of subclinical eating disorders.

Thus, there is a range of evidence attesting to the benefits of eating breakfast. In addition, it is important to start life with healthy habits (Graham & Uphold, 1992), such as eating breakfast. A number of researchers have argued that habits are formed early in life (Perry, Griffin, & Murphy, 1985) and are likely to continue unchanged into adulthood (Nicklas et al., 1993). Established habits are considered difficult to alter, hence the focus upon the early years (Cohen, Brownell, & Felix, 1990).

A number of studies (mostly North American) have looked at the prevalence of skipping breakfast. Various rates have been found: 4% for ages 9-19 (Resnicow, 1991), 5.1% and 4.6% for grades 1-3 (McIntyre, 1993), 11% for grades 1-12 (Gleason, 1995), 16% for ten-year-olds (Nicklas et al., 1993), 18% for grades 7 and 8 (Singleton & Rhoads, 1982), and as high as 38% for a sample of poor, rural children in grades 7 and 8 (Terre, Draman, & Meydrich, 1990). An Australian study of the prevalence of breakfast consumption in Brisbane found that 4% of children (grades 3-7) from low socioeconomic suburbs had not eaten breakfast on the morning of the questionnaire (Collins & Mannion, 1995). These authors noted the lack of Australian data on this topic.

The sociodemographic characteristics of breakfast skippers have also been investigated. The household component of the 1987 National Medical Expenditure Survey, with a sample of 6,722 U.S. children aged 5-17, indicated that one in five did not regularly eat breakfast, and of these, females, teenagers, and those from families where the head of the household had a relatively low level of education were more likely to be skippers; race differences were not found (Cornelius, 1991). Other studies have also found females (Morgan et al., 1986; Resnicow, 1991; Graham & Uphold, 1992; Nicklas et al., 1993; Gleason, 1995) and older children (Morgan et al., 1986; Resnicow, 1991; Gleason, 1995) to be more likely to skip breakfast. However, McIntyre's (1993) Canadian Study found that males and younger children were more frequent skippers. Children from low-income families have also been found to be more frequent skippers (Bidgood & Cameron, 1992; Gleason, 1995).

The poverty factor has been the focus of interventions to try to increase the number of children eating breakfast regularly. There have been a number of programs in the U.S. and Canada aimed at alleviating the effects of hunger on learning (McIntyre, 1993). In the U.S., the School Breakfast Program is available to about half of all students and tends to be offered in poorer areas (Gleason, 1995). The focus of the program is to provide a free or subsidized breakfast to children from low-income families. This program has been shown to be effective in enhancing nutrient intake (Radzikowski & Gale, 1984) and to lead to improvements in standardized achievement test scores and to lower rates of absenteeism and tardiness (Meyers, 1989). However, Keith and Mossholder (1986) found that free school breakfast programs did not have any effect on school attendance, performance, or psychological tests. Collins and Mannion (1995) have noted that, in Australia, there are only a few community-based breakfast programs, and none (official or unofficial) in Brisbane.

Few studies have directly considered why some children skip breakfast. Over three decades ago, Cooksey (1963) found that skipping was more frequent when eating alone, or when breakfast had to be prepared by the teenagers themselves; however, respondents were not directly asked about their reasons for skipping. More recently, Bidgood and Cameron (1992) found that those below the poverty line were skipping breakfast twice as often as others, but less than one percent said that they skipped due to lack of money or food. The most common reasons given for skipping were not liking to eat particular meals and lack of time. Similarly, Singleton and Rhoads (1982) found that the most common reasons given for skipping were no time (43%) and not being hungry (42%); less common reasons included being on a diet to lose weight, not feeling good, no one to prepare food, not liking the food served, and food not being available. Thus, stated reasons have generally involved personal choice rather than shortage.

METHOD

The sample used for this investigation came from the Mater Hospital-University of Queensland Study of Pregnancy. In Phase I of that prospective longitudinal study (1981-84), 8,556 pregnant women were interviewed at the time of their first clinic visit (Keeping, Najman, Morrison, Western, Andersen, & Williams, 1989). They completed another questionnaire between 3 and 5 days postpartum (Phase II) and were mailed a questionnaire 6 months after delivery (Phase III). Obstetric data were also collected (Phase IV). A total of 5,146 respondents also completed questionnaires when the child was aged five (Phase V). The present results were taken from the first part of Phase VI, conducted when the child was aged thirteen. An attempt was made to survey the first 1,000 respondents, by birth order, who had been in the study at Phase V (hence this excludes transfers to other hospitals, miscarriages, stillbirths, child/mother deaths, and refusal to participate at a previous stage, but includes those who could not be located at a previous phase). The successful location-participation rate of over 70% was considered very good for a study with a 13-year follow-up. At this most recent phase, both the mother and her child completed questionnaires. Of the items reported here, the sociodemographic variables were taken from the mother's questionnaire at Phase VI (with the exception of education and race from Phase I, and sex of child from Phase IV); all other reported items were asked of the children themselves.

Only those children who completed a subsection of the questionnaire on food and eating habits ($n = 721$), and for whom there was a corresponding maternal questionnaire, were included in this investigation. As income was considered a central variable, only those cases where this information was provided were used. This left 699 valid cases. The data were analyzed using SPSS/PC + Version 4.0 (Norusis, 1990).

Supplementary data were collected via a telephone survey approximately one year after questionnaires were completed. The 82 respondents (11.7%) who reported not eating breakfast formed the sample for this follow-up; of these, 56 completed interviews (68%) and 26 could not be contacted. Respondents were asked how often they ate breakfast, and if they did not, their reasons for skipping.

RESULTS

The sociodemographic patterns of skipping breakfast were examined using the chi-square test. Total family income was divided into low income (\$399 or less per week) and average-high income (\$400 or more per week). Education (of mother) was divided into those who had completed compulsory education or less (up to the age of 16) and those who had some further education. As Table I illustrates, the only statistically significant sociodemographic variable was gender ($p < .00001$): females skipped breakfast at over three times the rate of males. (Previous findings regarding age could not be confirmed due to age being constant.)

Investigation of other health-related behaviors revealed that not only did females skip breakfast more often than did males, they were also more likely to skip lunch ($p < .05$, chi-square test) and to have been on a diet to lose weight ($p < .00001$, chi-square test). Due to the prevalence and differences in reported dieting behavior, attitudes toward body shape and weight were also investigated. The adolescents were asked whether they thought they were overweight (responses were coded as yes or no). They were also asked to identify which of four body shapes they most resembled, and which one they would most like to be (recoded as satisfied with body shape, want to be smaller, and want to be larger). While females and males were equally likely to consider themselves overweight (33.3% and 31.8%, respectively), females were significantly more likely to be dissatisfied with their body shape and to want to be smaller ($p < .00001$, chi-square test). Nearly half of the females wanted to be smaller; males were more likely to want to be larger (see Table 2).

Table 1. Sociodemographic Patterns of Breakfast Skipping

| | Per cent | (n) | Total | Chi-square |
|----------------------------|----------|------|-------|-------------------|
| Breakfast skippers | 11.7% | (82) | 699 | |
| Male | 5.3% | (19) | 357 | <i>p</i> < .00001 |
| Female | 18.4% | (63) | 342 | |
| Low income | 8.6% | (14) | 163 | NS |
| High income | 12.7% | (68) | 536 | |
| Compulsory education | 12.9% | (66) | 510 | NS |
| Higher education | 8.1% | (15) | 186 | |
| Australian Aborigine | 17.6% | (3) | 17 | NS |
| Maori/Islander | 16.7% | (3) | 18 | |
| Asian | 19.2% | (5) | 26 | |
| White | 11.1% | (70) | 629 | |
| Mother lives with partner | 11.7% | (67) | 571 | NS |
| Does not live with partner | 11.0% | (14) | 127 | |
| MOTHER | | | | |
| Home duties/not employed | 11.0% | (33) | 299 | NS |
| Laborer | 11.0% | (8) | 73 | |
| Trade, sales | 12.3% | (22) | 179 | |
| Manager, professional | 10.7% | (13) | 121 | |
| FATHER/PARTNER | | | | |
| Home duties/not employed | 9.6% | (5) | 52 | NS |
| Laborer | 18.9% | (14) | 74 | |
| Trade, sales | 11.9% | (37) | 312 | |
| Manager, professional | 9.3% | (14) | 150 | |

For females, skipping breakfast may be connected in some way to feelings about body shape, and it may also be a method of dieting. For males, however, skipping breakfast may not be associated with other health-related behaviors or with attitudes.

Table 2. Satisfaction with Body Shape by Gender

| | Males | (n) | Females | (n) |
|--------------------|-------|-------|---------|-------|
| Want to be smaller | 19% | (68) | 47% | (160) |
| Satisfied | 54% | (192) | 44% | (149) |
| Want to be larger | 27% | (95) | 9% | (31) |
| Total | 100% | (355) | 100% | (340) |

These different gender patterns can be seen in two separate correlation matrices of behaviors and attitudes for males (Table 3) and females (Table 4). The only significant relationship for males was that those who wanted to be smaller were more likely to have been on a diet to lose weight. However, it seems that these males did not diet by missing meals. For females, body-shape dissatisfaction, dieting, and skipping breakfast and lunch might be connected phenomena.

Table 3. Correlation Matrix of Health-Related Behaviors and Attitudes; Males

| | Skip Breakfast | Diet | Overweight | Skip Lunch | Body Satisfaction |
|-------------|----------------|------|------------|------------|-------------------|
| SKIP BFAST | | NS | NS | NS | NS |
| DIET | | | NS | NS | .41[**] |
| OVER WEIGHT | | | | NS | NS |
| SKIP LUNCH | | | | | |
| BODY SATIS | | | | | |

** $p < .001$, chi-square test.

Table 4. Correlation Matrix of Health-Related Behaviors and Attitudes; Females

| | Skip Breakfast | Diet | Overweight | Skip Lunch | Body Satisfaction |
|-------------|----------------|------|------------|------------|-------------------|
| SKIP BFAST | | .15* | NS | NS | NS |
| DIET | | | NS | .16* | .49** |
| OVER WEIGHT | | | | NS | NS |
| SKIP LUNCH | | | | | -.13* |
| BODY SATIS | | | | | |

* $p < .01$; ** $p < .001$, chi-square test.

The social context of eating is also important (the original intent of the question that revealed the extent of breakfast skipping was to explore this issue), as previous research has suggested (Cooksey, 1963). Table 5 shows the gender distribution for the social context of breakfast consumption. Males were more likely to eat alone, but females were more likely to skip ($p < .0001$, chi-square test). Perhaps these female skippers not only had the desire to skip, but also the opportunity. In other words, social context, in particular parental supervision, might be a determining factor.

Table 5. The Social Context of Breakfast Consumption by Gender

| Eat breakfast with ... | Males | (n) | Females | (n) |
|------------------------|-------|-------|---------|-------|
| On my own | 31% | (111) | 23% | (80) |
| Some of my family | 51% | (183) | 48% | (164) |
| All of my family | 9% | (32) | 9% | (30) |
| Friends | 3% | (12) | 1% | (5) |
| Do not eat breakfast | 5% | (19) | 18% | (63) |
| Total | 100% | (357) | 100% | (342) |

The reasons for skipping breakfast were directly investigated in a follow-up telephone survey about one year after the initial interview. It was found that of the 56 interviewed, 27% always or almost always ate breakfast, while 16% sometimes and 57% rarely or never ate breakfast. The primary reason most commonly offered for skipping was lack of time in the morning (52%), followed by not being hungry (22%) and not feeling like it (14%). Typical responses were: "I eat breakfast when I have time" and "I'm not really hungry in the morning." A checklist of possible reasons for skipping breakfast (adolescents could indicate more than one) provided similar results. Not being hungry was chosen by 40 respondents, 35 claimed they had no time to eat breakfast, 20 did not like to eat in the morning, 10 did not like the food available, and 9 did not feel good in the morning. Eight indicated that wanting to lose weight was part of the reason for skipping, and 3 said they skipped breakfast because they were on a diet; all of these were females. Only 3 claimed that there was nothing to eat at home.

The results of these two phases of data collection thus give a slightly different picture, but should be seen as cumulative rather than contradictory. That 27% of those who initially were skippers but in the follow-up survey a year later indicated that they always or almost always ate

breakfast suggests an element of flux. One female said: "I used not to eat breakfast but now I do. I thought I could lose weight, but had a talk with Mum and now realize that it is better to eat breakfast." Clearly, further longitudinal research is needed to reveal how habits are established, their endurance, and how change occurs.

Nevertheless, a substantial number were still skippers one year after the data were first collected. Reasons offered for skipping mainly had to do with personal choice and convenience, rather than with dieting and concern about body shape. There are two possible explanations for this inconsistent finding. First, that skippers were more likely to have been on a diet and to be dissatisfied with their body shape may be a mere coincidence; that is, these might be genuinely separate issues. A second possibility is that the different reasons offered for skipping breakfast were a consequence of the different methods of data collection. Many teenagers may not admit that skipping breakfast is a weight-control strategy when being directly questioned over the telephone; a more effective technique for obtaining this information may be the use of self-report questionnaires. It may turn out to be that, for some teenagers, skipping breakfast is merely a matter of choice and convenience, but for many others, particularly females, it is an expression of concern about body shape.

CONCLUSION

For this Australian sample, breakfast skipping was related to gender, not income, with females skipping more than three times as often as males. Thus, rather than being influenced by socioeconomic position, breakfast skipping seems to be a matter of personal choice, and often one that is enacted within the social construction of gender and concomitant cultural values concerning the body.

That skipping breakfast is primarily a gender issue has very different implications for the promotion of health through nutrition, as compared with skipping as a result of poverty. Providing free or subsidized meals will not help those who choose not to eat them. Instead, skipping might be decreased by teaching the importance of eating breakfast, as well as building self-esteem and informing adolescents about sound means of weight control. However, young people cannot be expected to divorce themselves from their social and cultural context. Indeed, further longitudinal and multimethod investigations are needed, since this research has shown that even such a seemingly simple matter as skipping breakfast is intimately entwined with social and cultural factors, and especially the pervasiveness of gender identities.

REFERENCES

- American Psychiatric Association. (1987). *Diagnostic and statistical manual of mental disorders* (3rd ed., rev.). Washington, DC: Author.
- Belloc, N. B., & Breslow, L. (1972). Relationship of physical health status and health practices. *Preventive Medicine*, 1, 409-421.
- Berkman, L. F., & Breslow, L. (1983). *Health and ways of living: The Alameda County Study*. Oxford: Oxford University Press.
- Bidgood, B. A., & Cameron, G. (1992). Meal/snack missing and dietary inadequacy of primary school children. *Journal of the Canadian Dietetic Association*, 53, 164-168.
- Cohen, R. Y., Brownell, K. D., & Felix, M. J. (1990). Age and sex differences in health habits and beliefs of schoolchildren. *Health Psychology*, 9(2), 208-224.
- Collins, D., & Mannion, J. (1995). *The prevalence of children's breakfast consumption: A pilot study*. Queensland University of Technology.
- Connors, C. K., & Blouin, A. G. (1982/3). Nutritional effects on behavior of children. *Journal of Psychiatric Research*, 17(2), 193-201.
- Cooksey, E. (1963). Why do they skip breakfast? *Journal of Home Economics*, 55(1), 43-45.
- Cornelius, L. J. (1991). Health habits of school-age children. *Journal of Health Care of the Poor and*

Undeserved, 2(3), 374-395.

Craig, A. (1986). Acute effects of meals on perceptual and cognitive efficiency. *Nutrition Reviews Supplement*, 44, 163-171.

Dickie, N. H., & Bender, A. E. (1982a). Breakfast and performance. *Human Nutrition: Applied Nutrition*, 36A, 46-56.

Dickie, N. H., & Bender, A. E. (1982b). Breakfast and performance in schoolchildren. *British Journal of Nutrition*, 48, 483-497.

Gleason, P. M. (1995). Participation in the National School Lunch Program and the School Breakfast Program. *American Journal of Clinical Nutrition*, 61(Suppl), 2135-2205.

Graham, M. V., & Uphold, C. R. (1992). Health perceptions and behaviors of school-age boys and girls. *Journal of Community Health Nursing*, 9(2), 77-86.

Hanes, S., Vermeersch, J., & Gale, S. (1984). The National Evaluation of School Nutrition Programs: Program impact on dietary intake. *American Journal of Clinical Nutrition*, 40, 390-413.

Hill, G. M., Greer, L. L., Link, J. E., Ellersieck, M. R., & Dowdy, R. P. (1991). Influence of breakfast consumption patterns on dietary adequacy of young, low-income children. *FASEB Journal*, 245, A1644.

Keeping, J. D., Najman, J. M., Morrison, J., Western, J. S., Andersen, M., & Williams, G. M. (1989). A prospective longitudinal study of social, psychological and obstetric factors in pregnancy: Response rates and demographic characteristics of the 8,556 respondents. *British Journal of Obstetrics and Gynaecology*, 96, 289-297.

Keith, R. E., & Mossholder, S. B. (1986). Ascorbic acid status of smoking and nonsmoking adolescent females. *International Journal of Vitamin and Nutrition Research*, 56, 363-366.

McIntyre, L. (1993). A survey of breakfast-skipping and inadequate breakfast-eating among young schoolchildren in Nova Scotia. *Canadian Journal of Public Health*, 84(6), 410-414.

Melve, K. K., & Baerheim, A. (1994). Signs of subclinical eating disorders in teenage girls. *Scandinavian Journal of Primary Health Care*, 12(3), 197-203.

Meyers, A. F. (1989). Undernutrition, hunger and learning in children. *Nutrition News*, 52(2), 5-7.

Morgan, K. J., Zabik, M. E., & Stampey, G. L. (1986). Breakfast consumption patterns of U.S. children and adolescents. *Nutrition Research*, 6, 635-646.

Nicklas, T. A., Bao, W., Webber, L. S., & Berenson, G. S. (1993). Breakfast consumption affects adequacy of total daily intake in children. *Journal of the American Dietetic Association*, 93(8), 886-891.

Norusis, M. (1990). *SPSS/PC+ 4.0 base manual*. SPSS Inc.

Pelican, S., O'Connell, L. H., & Byrd-Bredbenner, C. (1985). Relationships of hunger and malnutrition to learning ability and behavior. Lakeland, FL: Florida Department of Citrus.

Perry, C. L., Griffin, G., & Murphy, D. M. (1985). Assessing needs for youth health promotion. *Preventive Medicine*, 14, 379-393.

Pollitt, E., Gersovitz, M., & Gargiulo, M. (1978). Educational benefits of the United States School Feeding Program: A critical review of the literature. *American Journal of Public Health*, 68(5), 477-481.

Pollitt, E., Leibel, R., & Greenfield, D. (1981). Brief fasting, stress and cognition in children. *American Journal of Clinical Nutrition*, 34, 1526-1533.

Radzikowski, J., & Gale, S. (1984). Requirements for the National Evaluation of School Nutrition Programs. *American Journal of Clinical Nutrition*, 40, 365-367.

Resnicow, K. (1991). The relationship between breakfast habits and plasma cholesterol levels in schoolchildren. *Journal of School Health*, 61(2), 81-95.

Simeon, D. T., & Grantham-McGregor, S. (1989). Effects of missing breakfast on the cognitive functions of school children of differing nutritional status. *American Journal of Clinical Nutrition*, 49, 646-653.

Singleton, N., & Rhoads, D. S. (1982). Meal and snack patterns of students. *Journal of School Health*, 52, 529-534.

Terre, L., Draman, R., & Meydrich, E. (1990). Relationships among children's health-related behaviors: A multivariate, developmental perspective. *Preventive Medicine*, 19, 134-146.