

SCIENCE NEWS®

The Weekly Newsmagazine of Science

A Science Service Publication
Volume 136, No. 22, November 25, 1989

E.G. Sherburne Jr. Publisher
Patrick Young Editor
Laurie Jackson Managing Editor
Janice Rickerich Production/Design Director
Bruce Bower Behavioral Sciences
Ivan Amato Chemistry/
Materials Science
Richard Monastersky Earth Sciences
Janet Raloff Environment/Policy
Kathy A. Fackelmann, Rick Weiss Life Sciences/
Biomedicine
Ivars Peterson Mathematics/Physics
Jonathan Eberhart Space Sciences
Liz Marshall Editorial Assistant
Diane E. Loupe, Aline McKenzie Science Writer
Wendy Smith Interns
Books/Resource Manager
Donald R. Harless Advertising/Business
Manager

Copyright © 1989 by Science Service, Inc.,
Editorial and Business Offices,
1719 N St., N.W., Washington, D.C. 20036.
Republication of any portion of SCIENCE NEWS
without written permission of the publisher is
prohibited.

Subscription Department
231 West Center Street, Marion, Ohio 43305

Subscription rate: 1 yr., \$34.50; 2 yrs., \$58.00.
(Foreign postage \$6.00 additional per year.) Change of
address: Four to six weeks' notice is required. Please
state exactly how magazine is to be addressed.
Include zip code. For new subscriptions only call
(1) 800-247-2160. Printed in U.S.A. POSTMASTER:
Send address changes to Science News, 231 West
Center Street, Marion, OH 43305. Second class
postage paid at Washington, D.C., and additional
mailing offices. Title registered as trademark U.S. and
Canadian Patent Offices. Published every Saturday by
SCIENCE SERVICE, Inc., 1719 N St., N.W.,
Washington, D.C. 20036. (202-785-2255)
ISSN 0036-8423

Letters

Breakfast of champions?

The "statistically significant impact" of the federal School Breakfast Program on academic achievement of children from low-income families ("In-school breakfasts improve test scores," SN: 10/14/89, p.247) is a classic example of a desirable conclusion purportedly supported by statistical analysis but fatally flawed by bad research design.

Children were not assigned randomly to eat or not to eat the breakfast, but selected themselves into one group or the other. It takes only a little imagination to see that the children who chose to eat the free meals could have been brighter or better motivated, or could have come from more supportive families, than those who passed up the chance. Furthermore, the researchers' implication that participation in the program led to lower rates of absence and tardiness than those of nonparticipants is likely confusing cause and effect. Children who tend to be

This Week

- 340 Cosmic Cartographers Find 'Great Wall'
- 340 Quasar illuminates the most distant past
- 341 Microbes complicate the K-T mystery
- 341 Night awakening can trigger heart damage
- 342 Teen suicide clusters: More than mimicry
- 342 Renewing bonds to recharge batteries
- 342 Monoxide heart risk
- 343 Radar reveals an asteroid's strange shape
- 343 Tasaday controversy grows more curious

Research Notes

- 349 Biomedicine
- 349 Chemistry
- 351 Food Science
- 351 Technology

Articles

- 344 A Tangle of Fibers

Cover: Like fabrics of varying weave, fibrous foods can have strikingly different properties. Recent attempts to unravel the mechanisms underlying fiber's purported health benefits reveal a cornucopia of physiological effects, including a few mixed blessings. (Illustration: Randy Fletcher)



- 346 Natural Selection for Computers

Departments

- 338 Science on the Air
- 338 Books
- 339 Letters

Science Service Institution for the public understanding of science founded 1921; a nonprofit corporation.

Board of Trustees — *Chairman*, Glenn T. Seaborg; *Vice Chairman*, Gerald F. Tape; *Treasurer*, Willis Harlow Shapley; Joseph W. Berg Jr.; Edward Bliss Jr.; Robert W. Fri; David A. Goslin; J. David Hann; Milton Harris; Leon M. Lederman; Elena O. Nightingale; Ben Patrusky; H. Guyford Stever; Deborah P. Wolfe.

Honorary Trustees — Bowen C. Dees; O.W. Riegel; John Troan.

President: E. G. Sherburne Jr.; **Business Manager**: Donald R. Harless.

absent and tardy probably are less likely to choose the breakfast *and* less likely to perform well in school.

*John L. Gill
Professor of Biometry
Michigan State University
East Lansing, Mich.*

Students who ate school breakfasts scored higher on achievement tests and had higher attendance rates than did students who skipped in-school breakfasts. However, this correlation does not imply that eating school breakfasts causes higher test scores and attendance rates. Instead, all three factors (eating school breakfasts, better attendance and higher scores) may have a common cause not examined in this study.

Even if school breakfasts were shown to be the primary cause for higher test scores, improved nutrition is not necessarily the reason. The higher scores could be caused by the higher attendance rate rather than by the improved nutrition. This, in turn, would sug-

gest that *any* incentive to attend school (including in-school breakfasts) could have a positive effect on achievement test scores.

*Katherine L. Taylor, Thomas S. Kantz
Baton Rouge, La.*

Chilly response

Because seasonal affective disorder (SAD) is often treated successfully with bright lights, researchers focus on ambient light levels as the cause ("Sizing up SADness according to latitude," SN: 9/23/89, p.198). However, many of the diagnostic symptoms could also be a response to ambient temperature. Oversleeping and overeating are strategies for staying warm, and insomnia and appetite loss are common responses to oppressive heat. The critical comparison is cities with identical latitudes but different temperatures.

*J. Steven Reznick
Assistant Professor of Psychology
Yale University
New Haven, Conn.*

NOVEMBER 25, 1989

339