

Report of an EU–US Symposium on Understanding Nutrition-Related Consumer Behavior: Strategies to Promote a Lifetime of Healthy Food Choices

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ABSTRACT

This report summarizes an EU–US Task Force on Biotechnology Research symposium on healthy food choices and nutrition-related purchasing behaviors. This meeting was unique in its transdisciplinary approach to obesity and in bringing together scientists from academia, government, and industry. Discussion relevant to funders and researchers centered on (1) increased use of public–private partnerships, (2) the complexity of food behaviors and obesity risk and multilevel aspects that must be considered, and (3) the importance of transatlantic cooperation and collaboration that could accelerate advances in this field. A call to action stressed these points along with a commitment to enhanced communication strategies.

Key Words: Obesity, food behavior, eating practices, purchasing behavior (*J Nutr Educ Behav.* 2014;46:445–450.)

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INTRODUCTION

Obesity prevention and nutritional sciences have been a focus within the European Union (EU)–US Task Force on Biotechnology Research¹ since the addition of this topic in 2005. It was important to achieve additional transatlantic cooperation of public and private sectors on this topic through dialogue and collaboration and these efforts were not limited to the specific focus of biotechnology. To advance the research agenda, this EU-US symposium on determinants of healthy food choices and nutrition-related purchasing behaviors was held in Gent, Belgium, in May, 2013. The emphasis was on areas of research that could significantly

benefit from EU–US partnerships and particularly from public–private partnerships involving 3 key scientific sectors: academia, government, and the food and beverage industry (key participants are listed as [Supplementary Data](#)). It was the stated aim of the organizers that by convening an innovative transdisciplinary group of scientists, new ideas would emerge, both in prevention and management strategies and in directions for future obesity research. This report provides a synthesis of information from this symposium, including identification of key research gaps and priorities in nutrition education, policy development, marketing research, and community-based intervention strategies in enhancing healthy food choice

behaviors and preventing obesity. “Healthy food choices” were not expressly defined in this meeting but were expressed in terms of a varied diet including fruits and vegetables and low-salt intake, a diet generally believed to help reduce the incidence of obesity and cardiovascular disease.

DISCUSSION OF STATE OF THE SCIENCE

Complexity of the Problem

There is common concern in the EU and US about nutrition- and obesity-related chronic diseases such as type 2 diabetes, arthritis, cardiovascular disease, kidney disease, and some forms of cancer. Food choices are central behaviors affecting health and wellness, yet understanding of the key factors to improve selection of healthy foods is incomplete. Dietary behaviors, especially in reference to prevention of obesity, represent opportunities for health interventions that are well positioned for action, if only the science were more mature. For many years it was assumed that consumers simply needed better nutrition knowledge and exhortations to eat a healthier diet. A recurrent theme of the symposium was that relatively few individuals are likely to be helped in this manner because food intake is

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motivated by many factors other than health concerns, and these influences in turn are multifactorial and must be considered at every level of determination from the individual to the community, and to the broader culture.

To discuss the many interrelated topics in a systematic way, the symposium attendees deliberated on topics that escalated through 3 levels, beginning with childhood influences on lifelong food behaviors and then expanded to factors affecting adult food choices and culminating in the broader community and cultural context affecting opportunities for healthy food habits. Attendees discussed the current state of policy and intervention measures in terms of their success or lack thereof. Finally, symposium participants crafted a call to action summary and synthesis (Table 1).

Childhood Influences on Lifelong Food Behaviors

Food patterns established in the first years of life have a profound effect on adult dietary behaviors. Central to the discussion was the assumption that early experience with exposure to a wide variety of tastes and flavors would increase later acceptance of foods such as fruits and vegetables, which would be beneficial because it may help to reduce the energy density of the diet and be less obesogenic.

Processes that shape food preference and choice begin *in utero*. Some dramatic examples have emerged, such as hyperphagia and excess body weight in the children of women with inadequate energy intake in early pregnancy.² Maternal food intake provides exposure to odors sensed *in utero*, with later effects on vegetable acceptance; these influences continue after birth with exposure through mothers' milk during breast

feeding.³ Even newborns demonstrate aversion to smells generally characterized as unpleasant (eg, rotten egg, shrimp/fish) consistent with protective instincts.⁴ Sweet and salt tastes are preferred from an early age over sour, bitter, and umami.

The first 6 months of life is a sensitive period of flavor learning, and 6–12 months appears to be a particularly responsive period influenced by variety and frequency of food offerings.^{3,5} Repeated exposure to new foods is effective in improving acceptance in European and US infants and children.^{6–8} This represents a practical strategy that can be translated into simple guidance for mothers to be more persistent with offering new foods to an infant, and may be equal to or better than more complicated approaches. An important discussion included the transition to solid foods, the transition to autonomy in food choice, and other preschool influences from practices in the home. Further study is needed on the longer-term effects of early life eating practices on adult food behavior, appropriate weight management, and other health outcomes.

Societal changes may be a challenge to modern parenting and produce some unintended consequences for food pattern development that predispose infants to later obesity. For example, the increased rate of dual working parents and other new parental time pressures may contribute to using food as a quick solution to calm fussy babies, especially with easily accepted foods and more frequent than necessary snacks. In a US study in which parents were taught to distinguish between hunger cries and other factors stimulating crying and to use soothing techniques rather than feeding for non-hunger related events, infants had a more

appropriate rate of weight increase.⁷ Other parental behaviors with unintended consequences appear to arise from well-intended actions such as food restriction or coercion, whereas relatively simple steps such as serving smaller portion sizes increased the likelihood of consumption of lower-density foods such as fruits and vegetables before satiety occurred with other foods.⁹ There is a critical need to characterize actual food practices in the home, the context for those practices, and the impact on dietary intake.

Industry has important data on infant feeding practices and has joined in several productive public–private partnerships to understand and promote good practices. The food intake of US infants and toddlers was surveyed in 2008 for comparison with an earlier 2002 survey that led to broad public nutrition education efforts. The results supported longer-duration breastfeeding and delayed introduction of complementary foods to 4–6 months. They also indicated a decline in feeding of sweets, sweetened drinks, and salty snacks, which suggests that public education programs may be beneficial, at least for this receptive group of mothers.¹⁰ Expanded research partnerships with industry (eg, private and public) may accelerate understanding and promotion of multi-level influences on healthy eating practices. Such partnerships are more urgently needed in this era of constrained research resources.

School-aged children have been a focus of a multinational obesity intervention and research project entitled “Ensemble, prevenons l’obésité des enfants” (EPODE).¹¹ In 1 of the crucial initiating studies, a concerted school and community intervention produced a reduction in prevalence of overweight in 5- to 12-year-olds over 4 years of consecutive assessments. In

Table 1. Broad Conclusions From the Symposium on Transatlantic Collaboration Held in Gent, May, 2013

- Standardize definitions and methodology in food intake assessment methodology.
- Better describe the problems related to diversity such as sociocultural, socioeconomic, environment, genetic, lifestyles factors.
- Disseminate knowledge of research findings (particularly to communities in which the studies occur).
- Conduct cross-cultural longitudinal, observational studies and sustainable interventions, including transatlantic research coordination and collaboration.
- Design research projects to be multilevel and multidisciplinary, and across sectors.
- Increase public–private partnerships, especially with expanded expertise that comes from trust with industry involvement, that will help policy makers jointly develop strategies for long-term solutions.

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