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Early nutrition education and healthy eating across the life course

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Introduction

Early childhood offers repeated chances to establish food preferences and eating routines. Parents, educators, and the food available in their communities shape those experiences. The two studies considered here examine whether practical nutrition education can equip adults to make healthier choices visible and engaging in early learning settings. The Healthy Eating Cafés report immediate gains in several nutrition knowledge measures; Feeding Brighter Futures reports changes in some attitudes toward classroom feeding practices. Together, they suggest a promising route from adult learning to healthier childhood food environments, while neither study establishes that children's eating habits or later health changed [1,2].

Childhood habits and health across the life course: Children learn about eating through exposure, observation, and participation. Repeated opportunities to see, touch, prepare, and taste foods can make unfamiliar foods more approachable; adult eating practices provide daily examples. Parents' dietary behaviors and feeding practices are associated with children's eating habits, while childcare staff practices are associated with willingness to try new foods [3,4]. A classroom snack is thus both a meal and an opportunity to model food choices.

Early weight trajectories provide another reason to act during childhood. Research identifies critical periods in the development of obesity and links patterns of growth in youth with obesity at later ages. These findings support early prevention but do not mean that children's outcomes are fixed or that a workshop can by itself prevent chronic disease [5,6]. The stronger claim supported by the present articles is that adults can learn practices intended to create healthier food experiences for children.

The surrounding food environment matters as much as individual knowledge. The Arkansas Delta communities discussed by Bailey and colleagues face constraints on access to fresh, affordable foods. Gardening, food demonstrations, and nutrition lessons may improve familiarity and food literacy, while access and household resources still determine what families can put into practice [7,8,1].

Two connected approaches to adult nutrition learning: The Healthy Eating Cafés worked with early childhood personnel through food comparisons, label and nutrient discussions, mindful snacking, cooking demonstrations, and a demonstration garden. The March 2024 café compared two salads while participants discussed fiber, fats, added sugars, and nutrient density. The May session asked educators to identify factors that influence food choices and ways to use mindful snacks in class. A later cooking session addressed fats and children's participation in snack preparation. These activities tied information to familiar decisions that educators make when planning and serving food [1].

Feeding Brighter Futures used a six-hour, case-based workshop with students, faculty, and staff at higher education institutions in Arkansas and Mississippi. Participants considered a three-year-old who avoided fruits and vegetables, reviewed MyPlate and Arkansas early learning requirements, and designed classroom activities in small groups. Each group presented an age-appropriate response to the child's reluctance. The case exercise gave participants a chance to apply knowledge, discuss regulation, and consider how to make exploration of produce inviting [2,9] (Table 1).

What the healthy eating cafés found: At the March 2024 café, 10 respondents completed a pre-survey and nine a post-survey. Four participants initially described a nutrient-dense food correctly, compared with all nine post-survey respondents. The total number of correct comparisons between the two salads rose from 28 to 45, and correct ingredient rankings rose from seven to 12. The measure is the number of responses

across each group, not a matched score for the same individuals. The salad result corresponds to 2.8 and 5.0 correct comparisons per respondent, respectively, but the denominators differ [1], (Figure 1).

The May café also reported more detailed answers about mindful snacking and factors shaping food choices. Its table lists average correct answers per respondent rising from 0.9 to 1.3 for classroom mindful-snacking ideas and from 1.8 to 3.4 for influences on food choices. A later cooking demonstration reported an increase from 0.6 to 1.4 unique answers per respondent on how children's help with snack preparation could affect eating habits. Some narrative and table values in the source differ; these examples use the tabulated May figures and the narrative snack-preparation figures, with their measures stated separately [1].

The direction of the café results is encouraging: Participants appeared better able to explain nutritional ideas and name ways to bring them into teaching. Yet the article did not observe subsequent lessons, menus, or children's intake. More responses on an immediate survey demonstrate a change in what attendees could articulate at that moment, rather than a confirmed change in their classrooms or in children's diets [1].

What feeding brighter futures found: The workshop had 33 pre-survey and 19 post-survey respondents. Agreement with the statement that teachers should eat only snacks available to children increased from a reported mean of 3.69 to 4.32 on a five-point scale. The proportion agreeing or strongly agreeing increased from 16 of 33 to 16 of 19. This topic matters because adults model eating in the same space where children encounter foods [2,4].

Participants began with favorable views of involving children in snack preparation; the mean rose from 4.09 to 4.47. The reported test for this item was not statistically significant. On the statement that pizza parties are a good way to promote classroom behavior, means were 3.44 and 3.37, showing little movement. The source notes that participants may have interpreted the pizza question as a food-choice question rather than a question about rewards, complicating its interpretation [2], (Figure 2, Table 2).

How learning could reach children: The studies point to a sequence of practical choices. Educators can compare the nutrients in commonly served foods, select appealing fruit and vegetable snacks, sit and eat with children, invite children to help prepare food, and use gardening or food stories to encourage exploration. The cafés emphasized food literacy and classroom ideas; the workshop asked participants to translate guidance into a designed activity. Used together, these methods could help adults offer repeated, positive experiences with nutritious foods [1,2].

Those experiences may matter well beyond preschool because familiar foods and routines can persist, and earlier obesity trajectories are associated with later risk. This is a plausible pathway grounded in the broader literature, rather than a measured long-term effect of either project. It also depends on stable access to nutritious foods and on adults' ability to carry lessons into the classroom and home [5-7,3].

The two studies suggest a pathway from educator learning to children's everyday food experiences. In the Healthy Eating Cafés, participants practiced identifying nutrient-dense foods, comparing ingredients, and describing ways to teach mindful snacking and food preparation. Feeding Brighter Futures then asked participants to apply nutrition guidance to a classroom case: a three-year-old reluctant to eat fruits and vegetables. These activities can help adults move from knowing which foods to offer toward planning how children will encounter them [1,2].

Meals and snacks provide a daily opportunity to put that planning into practice. An educator who sits with children and eats the nutritious foods being served can model a choice without requiring a child to copy it. Offering age- appropriate portions, inviting children to serve themselves when feasible, and talking calmly about a food's color or texture can make mealtimes opportunities for exploration. Current early care guidance supports adult modeling and advises against forcing, bribing, or rewarding children with food. The increased agreement with teacher snack modeling after the Feeding Brighter Futures workshop is relevant to this approach, although the study measured participants' attitudes rather than their later classroom behavior [2].

Children also need chances to become familiar with foods over time. An educator might introduce spinach through a garden activity or story, invite children to wash leaves for a snack, and offer a small amount to taste on later occasions. These steps connect the cafe's food literacy and gardening activities with the workshop's emphasis on designing an age-appropriate lesson [1,2]. Their potential value goes beyond a single tasting: in a preschool trial, repeated taste exposure increased intake of an unfamiliar vegetable, while nutrition education increased children's willingness to try it. The trial did not find an additional intake benefit from combining the two approaches, so each activity should be judged by the outcome it is intended to support [10].

Participation can make that exposure more active. Children might help rinse produce, assemble a snack, observe a plant growing, or describe what they notice before deciding whether to taste it. Such tasks give educators ways to revisit a food without turning eating into a test or punishment. The cafés found that participants could name more ways snack preparation might influence children's habits after instruction; workshop participants expressed strong support for involving children in preparation. These findings concern adults' knowledge and attitudes. They do not show whether children participated more often or changed what they ate [1,2].

For learning to extend beyond a workshop, the activities must become feasible routines. Educators need time, suitable food, and support from their centers to repeat lessons and offer nutritious snacks. Families can reinforce familiar foods at home, while gardens and local food activities may help connect classroom learning with what children see in their communities. Access remains a constraint: knowing how to prepare a vegetable does not ensure that a center or family can obtain it regularly [7,8,1].

These experiences may help establish preferences and routines that continue beyond preschool, and early growth patterns are associated with later health risks [5,6]. That longer-term connection is the reason to study the pathway carefully. Neither the cafés nor Feeding Brighter Futures followed children into later life. The next evidence needed is whether training changes what educators do, whether children receive repeated opportunities to explore nutritious foods, and whether those opportunities improve children's choices over time [1,2].

Connecting educator learning with lifelong health: Taken together, the two interventions suggest a practical pathway: adults learn to recognize nutritious foods, practice selecting and preparing them, and design classroom experiences that offer children repeated, positive contact with those foods. Modeling during shared snacks and children's participation in preparation can make nutrition visible in everyday routines. Gardens can add hands-on exposure and connect lessons to food sources [1,2,8]. If such practices are sustained alongside reliable access to healthy food, they may help children develop habits that carry into later life. That longer-term pathway is a reason to invest in early nutrition education, not an outcome demonstrated by these short-term evaluations.

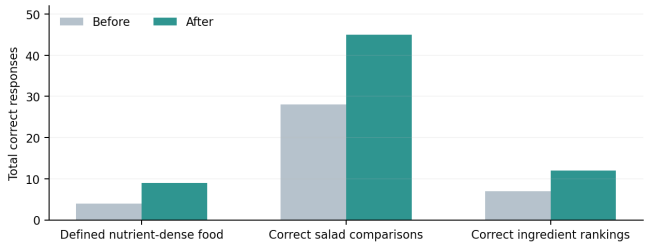


Figure 1: Selected March 2024 café responses, before (n=10) and after (n=9). Counts are adapted from [1], (Table 1). Different survey totals and anonymous responses limit individual-level interpretation.

Both studies used small samples and immediate pre- and post-session surveys, and neither followed children or observed long-term dietary outcomes. The workshop also had fewer post-survey than pre-survey respondents, with anonymous responses that could not be paired. Future evaluation should track educator practice, children's food exposure and choices, and whether gains persist, while accounting for the food access constraints families face [1,2].

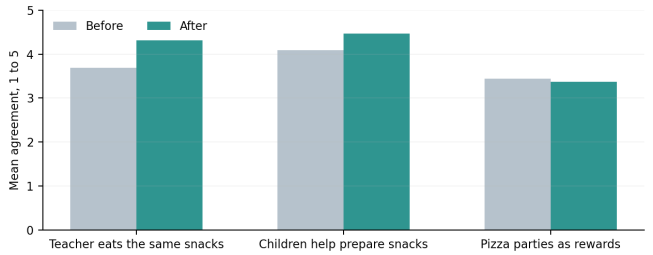


Figure 2: Mean agreement with three workshop statements on a five-point scale; before n=33, after n=19. Values from [2], figure captions. Bars describe separate anonymous respondent groups, not paired individual changes. The manuscript narrative calls the teacher-snack change statistically significant, but its figure caption gives p=0.5; statistical significance cannot be resolved from the supplied manuscript.

Table 1: Comparison adapted from [1,2]. The activities and samples differed; this is not a direct comparison of effectiveness.

Feature	Healthy eating cafés	Feeding brighter futures
Audience	Early childhood center personnel; garden visit included parents and a grandparent	University students, faculty, and staff, including prospective professionals
Teaching method	Food comparisons, discussion, mindful snacking, gardening, and cooking	Video case, MyPlate and licensing instruction, group lesson design and presentations
Immediate evaluation	Anonymous pre/post responses on nutrition concepts and classroom strategies	Anonymous pre/post responses on knowledge, perceptions, and attitudes
What remains unmeasured	Sustained curriculum changes and children's dietary outcomes	Actual classroom practice, child food choices, and durability of attitudes

Table 2: Workshop Likert means as reported in [2]. Higher agreement is not uniformly desirable: agreement with pizza parties as rewards runs counter to the workshop's stated guidance.

Measured item	Before	After	Interpretation
Teacher consumes only snacks also available to children	3.69 / 5	4.32 / 5	Greater agreement; conflicting significance report
Children help prepare snacks	4.09 / 5	4.47 / 5	Already favorable; reported test not significant
Pizza parties as behavior rewards	3.44 / 5	3.37 / 5	Little change in mean agreement

Discussion of Results

The two evaluations are complementary because they test different parts of an educational pathway. The cafés emphasized whether adults could identify nutritional qualities of foods and describe classroom applications. The workshop emphasized whether participants endorsed practices consistent with adult modeling and children's participation. The March café's increase in correct nutrient-density descriptions and salad comparisons suggests that tangible food comparisons can make nutrition concepts easier to recognize. The workshop's higher mean agreement on teachers sharing children's snack options suggests that case-based planning can draw attention to how educators model eating. Neither result shows that a child subsequently ate more fruits or vegetables [1,2].

The results also reveal where knowledge and attitudes do not move together. Café respondents generated more ideas about snack preparation, while workshop respondents already favored children helping with snacks before training and showed a smaller, statistically unconfirmed additional rise. The workshop's pizza-party item barely changed. That contrast may reflect a practice that needs explicit attention, but the item may also have mixed participants' views about food rewards with their views about pizza ingredients. It would be premature to infer that the workshop either changed or failed to change actual reward practices from that single question [1,2].

Several design features temper the apparent gains. Both studies assessed responses immediately after instruction, used small groups, and had different numbers of respondents before and after. Anonymous questionnaires could not show

which individuals changed. The workshop drew largely from higher education rather than a sample solely of practicing early childhood teachers. Moreover, its manuscript describes the teacher-snack result as statistically significant while the corresponding figure caption reports p=0.5. The direction of the reported mean and response distribution is clear, but the inferential claim requires correction or verification before publication. The café article also contains differences between narrative and tabulated figures for some questions, so the present synthesis identifies the source and measure for each value [1,2].

Taken together, the findings support experiential training as a feasible way to improve immediate nutrition literacy and engage adults in designing healthier food experiences. The proposed link to lifelong health depends on later steps: educators must use those lessons consistently, children must have opportunities to encounter nutritious foods, and families and centers must be able to obtain those foods. Follow-up observation and child-level measures would be needed to test that pathway [1-3,8].

Conclusion

Healthy eating habits develop through repeated childhood experiences with food, shaped by the adults who provide meals, the routines they establish, and the foods families and early learning centers can access. The Healthy Eating Cafés and Feeding Brighter Futures address different parts of that environment. Café participants showed immediate gains in several measures of nutrition knowledge and generated more ideas for bringing food education into classrooms. Workshop participants reported stronger support for teachers modeling the snack choices available to children, while their views on children helping prepare snacks were already favorable and their responses about food-based rewards changed little [1,2].

The shared contribution of these programs is their practical approach. Comparing familiar foods, exploring a garden, preparing snacks, and designing lessons give adults ways to turn nutrition guidance into experiences children can see and take part in. Evidence beyond the two evaluations suggests that this distinction matters: in a preschool trial, repeated opportunities to taste an unfamiliar vegetable increased intake, while nutrition education increased willingness to try it [10]. Early care guidance likewise emphasizes nutritious meals, adult modeling, and avoiding food as a reward or punishment. These findings support the programs' educational approach without demonstrating that either program changed children's diets.

The results should therefore be understood as early evidence about adult learning, not proof of lifelong health effects. Both evaluations relied on small groups and immediate surveys; neither tracked sustained classroom practices, children's food choices, or health in later life. Food costs and availability may also limit whether educators and families can apply what they learn. The workshop manuscript's conflicting reports of statistical significance for the teacher-snack item further call for verification before that particular result is presented as conclusive [1,2].

Together, the studies justify continued investment in practical educator training paired with stronger evaluation. The next step is to observe whether participants put the lessons into practice, whether children receive repeated and welcoming exposure to nutritious foods, and whether their willingness to try and eat those foods changes over time. Following those steps would test the proposed connection between early nutrition education and healthier habits later in life [1,2].

Implications and research priorities: Programs can build on these findings by combining short, concrete food demonstrations with opportunities to plan and rehearse age-appropriate activities. Training should address adult modeling, children's participation in preparation, and alternatives to food-based rewards. The mixed response to reward practices suggests that a single general nutrition session may not be enough for habits tied to classroom management [1,2].

The evaluations remain preliminary. Both use small, anonymous groups with different numbers of pre- and post-survey responses; the workshop lost 14 respondents by the post-survey. Neither has a comparison group, long-term follow-up, classroom observations, or child dietary data. Future studies should link training to observed meal practices, menus, repeated exposure to produce, and children's choices over time. They should also assess feasibility where food costs and availability constrain implementation. Until then, the evidence supports immediate adult learning and selected attitude changes, with a well-reasoned but untested route toward healthier later-life habits [1,2].

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