Food Distribution Research Society

Journal of Food Distribution Research
Volume 57, Issue 1, pp. 38–50

Willingness-to-Pay Premium for Climate-Smart (CS) Food Across Age Groups: The Moderating Role of Knowledge

Arbindra P. Rimal[a]ⓘ and Jacob Brewer[b]

[a]*Professor, School of Hospitality and Agricultural Leadership,*
901 S. National Ave., Missouri State University,
Springfield, MO 65897, USA

[b]*Graduate Assistant,, School of Hospitality and Agricultural Leadership,*
901 S. National Ave., Missouri State University,
Springfield, MO 65897, USA

Abstract

Climate-smart (CS) agriculture is increasingly promoted as a pathway to mitigate climate change while maintaining agricultural productivity. Consumer willingness-to-pay (WTP) premiums for food grown using CS practices is essential for scaling CS food systems, yet such willingness may vary systematically across age groups and levels of farming knowledge among buyers. Data for the study was collected in October 2024 using household survey across six Midwestern states (n = 2,016). Ordered probit models were estimated to examine differences across age groups in WTP for CS food and the moderating role of CS farming knowledge. Differences across age groups in WTP for CS food were substantial but contingent on knowledge. Policies and marketing strategies that elevate CS-specific knowledge—particularly among younger cohorts—may accelerate adoption of climate-smart agriculture.

Keywords: climate-smart agriculture; consumer farming knowledge; generational cohorts; moderating effects; price premiums; ordered probit models; sustainable food systems; willingness-to-pay

ⓘCorresponding author: Tel: (417) 836-5094
Email: arbindrarimal@missouristate.edu

Introduction

Climate change mitigation and adaptation have become central objectives of global food-system transformation, with agriculture occupying a critical position due to its dual role as both a contributor to and a potential mitigator of greenhouse gas emissions. Climate-smart (CS) agriculture has emerged as a widely endorsed framework that integrates productivity, resilience, and environmental sustainability objectives (Poore and Nemecek, 2018; Parlasca and Qaim, 2022). While producer-side adoption of CS practices is necessary, sustained market demand for food produced using such practices is essential for long-term scalability.

Consumer demand for sustainably produced food has grown alongside increasing awareness of the environmental impacts of dietary choices. Younger generations, in particular, report stronger pro-sustainability values and greater concern for climate and environmental issues (Dimock, 2023; Liang et al., 2024). However, willingness-to-pay (WTP) for sustainability attributes is heterogeneous and influenced by sociodemographic factors, trust, and consumer knowledge (Nuttavuthisit and Thøgersen, 2017; Li and Kallas, 2021).

Despite growing literature on sustainable food consumption, limited empirical research has explicitly examined how knowledge of climate-smart farming moderates generational differences in WTP. Addressing this gap is particularly relevant for policy design and communication strategies aimed at scaling CS agriculture. This study therefore asks: i) How does WTP for CS food vary across age groups? and ii) Does CS-specific knowledge moderate this relationship? By answering these questions, the study contributes to the literature on sustainable consumption, generational consumer behavior, and the role of information in agri-food markets.

A substantial body of literature documents the environmental impacts of food consumption, particularly the higher climate footprint of meat-intensive diets relative to plant-based alternatives (Poore and Nemecek, 2018; Parlasca and Qaim, 2022). As awareness of these impacts has increased, some consumers have reduced meat consumption for environmental reasons (Sanchez-Sabate and Sabaté, 2019) or switched to substitutes that have less impact on climate. These dietary shifts are often accompanied by greater WTP for sustainability attributes, such as organic, local, or environmentally friendly production methods (Li and Kallas, 2021).

Millennials and Generation Z are the most racially and ethnically diverse cohorts in U.S. history and have been shaped by heightened discourse on climate change and sustainability (Dimock, 2023). Empirical studies find that younger cohorts are more likely to support sustainable consumption, though heterogeneity exists within cohorts based on education, income, and household composition (Tung, Tsay, and Lin, 2015; Liang et al., 2024). Recent research on Generation Z finds strong environmental attitudes and interest in sustainable food (e.g., plant-based alternatives), yet price sensitivity remains significant, limiting actual premium payments (Meixner, Malleir, and Haas, 2024). Cross-national evidence also shows that younger cohorts are more responsive to sustainability branding and ethical attributes, often associating them with identity and lifestyle (Goedertier, Weijters, and Van den Bergh, 2024). Younger consumers, therefore, have higher environmental awareness and report strong stated willingness-to-pay

premium over conventionally grown food, but their realized premiums tend to lower due to income constraints. Middle-aged consumers, including Generation X, tend to exhibit moderate but consistent willingness-to-pay premium. Older consumers, including Baby Boomers and the Silent Generation, exhibit lower environmental concerns compared to younger consumers, are more price conscious, and are willing to pay premium if it sustainably overlaps with health (e.g., organic) and food safety (Goedertier, Weijters, and Van den Bergh, 2024).

Consumer knowledge reduces information asymmetry and increases perceived value of credence attributes, such as sustainable production practices. Meta-analyses and experimental studies consistently find a positive association between objective or perceived knowledge and WTP for sustainable food (Nuttavuthisit and Thøgersen, 2017; Li & Kallas, 2021). Recent studies suggest that knowledge may moderate generational effects, with younger consumers more likely to translate knowledge into purchasing decisions, whereas older consumers rely more heavily on trust and certification cues (Kovacs and Keresztes, 2022; Laing, Cao, and Zhang, 2024).

Conceptual Framework and Hypotheses

Building on consumer utility theory, willingness-to-pay for CS food depends on the additional utility derived from climate-smart attributes relative to conventionally produced food. This incremental utility reflects both observable components (e.g., price, labels) and unobservable components (e.g., values, beliefs, and knowledge).

Membership of consumers in different age groups is hypothesized to influence WTP directly, whereas degree of CS farming knowledge moderates this relationship by conditioning how generational values translate into purchasing behavior.

Accordingly, we test the following hypotheses:

H1: Consumers' age is significantly associated with willingness-to-pay premiums for climate-smart food, with younger consumers, including those belonging to Generation Z and Millennials, exhibiting higher WTP than older cohorts.

H2: The relationship between age groups and willingness-to-pay is moderated by the level of CS farming knowledge, such that higher knowledge strengthens WTP among younger cohorts.

Materials and Methods

Data Collection

Data for the study were collected in October 2024 through a household survey using online techniques across six Midwestern states: Missouri, Arkansas, Illinois, Oklahoma, Iowa, and Kansas. The survey was conducted by Dynata, an international market research and data company. The final analytical sample included 2,016 U.S. consumers and is regionally representative at the 95% confidence level with a margin of error of approximately ±1.2%. The survey collected

detailed information on food purchasing behavior, willingness-to-pay premiums for climate-smart food, self-reported knowledge of specific CS farming practices, environmental attitudes, and sociodemographic characteristics.

Measures

The dependent variable (see Table 1) is consumers' stated willingness-to-pay premium for food produced using climate-smart practices relative to conventionally produced food. This variable is treated as an ordered categorical outcome reflecting increasing premium levels. The lowest category is unwilling to pay any premium, and the highest category is more than 20% above the average price of conventionally grown food.

Table 1. Description of Variables

Variable Name	Description	Mean
WTP Premium	Willingness-to-pay premium for CS food above conventionally grown food 0 = not willing to pay; 1 = 1%–4% above; 2 = 5%–9% above; 3 = 10%–14% above; 4 = 15%–20% above; 5 = more than 20% above	1.60
Gender	1 = female; 0 = male	0.51
Children	1 = households with children; 0 = otherwise	0.33
Race	1 = white/Caucasian; 0 = other racial categories	0.76
Education	1 = college degree and above; 0 = less than college degree	0.36
Married	1 = married; 0 =otherwise	0.42
Employed	1 = full- or part-time employed; 0 = otherwise	0.59
AvSpend	Average amount spent per grocery trip is $100–$150; 1 = if above average; 0 = otherwise	0.59
Urban	1 = if live in urban areas; 0 = otherwise	0.35
Rural	1 = if live in the rural area; 0 = otherwise	0.21
Suburban#	1 = if live in the suburban area; 0 = otherwise	0.43
AgeGroups	1 = ages 18 to 24; 2 = ages 25 to 34; 3 = ages 35 to 44; 4 = ages 45 to 54; 5 = ages 55 to 64; and 6 = ages 65 and above	1.65
Knowledge	Degree of knowledge regarding climate-smart farming practices, score values are a minimum of 12 and a maximum of 60	25.04

Notes: #dropped variables in regression models
Survey script for WTP premium question: How much price premium are you willing to pay for food grown using Climate-Smart growing practices compared to conventionally grown food products?
Not willing to pay premium.
1%–4%
5%–9%
10%–14%
15%–20% greater than 2

Key explanatory variables include age of respondents measured using six groups; the youngest group is between 18 to 24 years old and the oldest is above 65 years old in 2024. These groups closely align with generational cohorts as described by Dimock (2023) at Pew Research Center. Next is the level of CS farming knowledge among respondents. Knowledge is measured using respondents' self-assessed familiarity with 12 specific CS practices, including conservation crop rotation, cover crops, no-till systems, windbreaks, field borders, and alley cropping. Respondents were asked to report how informed they feel about the specific climate-smart farming practices (1 = "not informed at all" to 5 = "extremely informed"). A knowledge score was created summing the reported value for each of the practices. The maximum value of the score is 60, and the minimum value is 12. An interactive variable was created multiplying age groups and knowledge score. This interactive variable was included in the full model to test for the moderation hypothesis.

Control variables include gender, presence of children in the household, race/ethnicity, education, marital status, employment status, average food expenditure, and urban, suburban, or rural residence.

Econometric Specification and Moderation Model

Given the ordinal nature of the dependent variable, ordered probit regression models are estimated. Model 1 includes only sociodemographic controls. Model 2 introduces age groups. Model 3 includes CS knowledge variable. Model 4 is the full moderation model, incorporating age groups and CS knowledge and an interactive variable, which is the multiplication of age groups and CS Farming Knowledge.

Following are the specifications for the regression models included in the study:

Model 1:

$$WTP^* = \alpha + \beta_1 Gender + \beta_2 Children + \beta_3 Race + \beta_4 Education + \beta_5 Married + \beta_6 Employed + \beta_7 AvSpend + \beta_8 Urban + \beta_9 Rural + \varepsilon_1 \quad (1)$$

Model 2:

$$WTP^* = \alpha + \beta_1 Gender + \beta_2 Children + \beta_3 Race + \beta_4 Education + \beta_5 Married + \beta_6 Employed + \beta_7 AvSpend + \beta_8 Urban + \beta_9 Rural + \beta_{10} AgeGroups + \varepsilon_2 \quad (2)$$

Model 3:

$$WTP^* = \alpha + \beta_1 Gender + \beta_2 Children + \beta_3 Race + \beta_4 Education + \beta_5 Married + \beta_6 Employed + \beta_7 AvSpend + \beta_8 Urban + \beta_9 Rural + \beta_{10} Knowledge + \varepsilon_3 \quad (3)$$

Model 4:

$$WTP^{*} = \alpha + \beta_1 Gender + \beta_2 Children + \beta_3 Race + \beta_4 Education + \beta_5 Married + \beta_6 Employed + \beta_7 AvSpend + \beta_8 Urban + \beta_9 Rural + \beta_{10} AgeGroups + \beta_{11} Knowledge + \beta_{12}(AgeGroups \times Knowledge) + \varepsilon_4 \quad (4)$$

The moderating role of knowledge is assessed by examining changes in the magnitude and significance of variable representing age groups after CS Farming Knowledge is added, as well as through sign and significance of the interactive variable in Model 4. Marginal effects and predicted probabilities of each of the premium categories were calculated based on the estimated coefficients in Model 4 following Long (1997). This approach is appropriate when moderation is conceptualized as a conditioning effect along with an interaction term. Regression results, marginal effects, and predicted probabilities of paying a premium are reported in Tables 3, 4, and 5.

Results and Discussions

Descriptive Statistics

Table 1 summarizes descriptive statistics of the variables included in the regression models. The sample means closely represent the population averages for the six states from which samples were drawn. Sample mean for the price premium is approximately 5% above the price paid for conventionally grown food. Table 2 reports a cross tabulation of WTP price premiums and age groups with statistical significance of Chi-square values. About a third of the respondents are unwilling to pay any price premium. Only about 10% are willing to pay more than 15% above the price for the conventionally grown food. Approximately 60% are willing to pay between 1% and 15% above conventionally grown food. Younger cohorts report higher stated willingness-to-pay premium compared to older groups. Nearly 50% of the consumers aged 55 and above, approximately representing Baby Boomers and the Silent Generation, are not willing to pay any premium compared to only 19% among ages 18 to 24 years and slightly more than 20% among ages 25 to 34 years. These two groups closely represent Generation Z and Millennials discussed above.

Table 2. Reported Willingness-to-Pay by Age Groups

	Not Willing-to-pay	1 = 1%–4% above	2 = 5%–9% above	3 = 10%–14% above	4 = 15%–20% above	5 =More than 20% above	Total
Age 18–24 years*	40 (19.4%)	33 (16.0%)	46 (22.3%)	49 (23.8%)	20 (9.7%)	18 (8.7%)	206 (5.1%)
Age 25–34 years*	146 (22.1%)	121 (18.3%)	151 (22.9%)	142 (21.5%)	58 (8.8%)	44 (6.6%)	662 (28.2%)
Age 35–54 years	116 (33.4%)	70 (20.2%)	61 (17.6%)	67 (19.3%)	14 (4.0%)	19 (5.5%)	347 (24.3%)

Table 2 (cont.)

	Not Willing-to-pay	1 = 1%–4% above	2 = 5%–9% above	3 = 10%-14% above	4 = 15%-20% above	5 = More than 20% above	Total
Ages 55 and above*	313 (39.1%)	201 (25.1%)	163 (20.3%)	81 (10.1%)	30 (3.7%)	13 (1.6%)	801 (37.4 %)
Total	615 (30.5%)	425 (21.1%)	421 (20.9%)	339 (16.8%)	122 (6,1%)	94 (4.7%)	2016

Notes: Figures in (-) are total percentage of respondents reported for price premium category.
*Chi-square values significant at $\alpha < 0.00$.

Ordered Probit Estimates

Results from the ordered probit models are presented in Table 3 for all four models. Standardized Akaike Information Criteria (AIC/N), McFadden Pseudo R Squared and Chi-squared values are reported for all four models to assess the overall fitness and performance of the models. AIC/N evaluates how well the latent-variable structure explains the ordinal outcomes for the models while penalizing for extra thresholds or covariates. Lower AIC/N is better**.** It implies a better tradeoff between fit and parsimony. The reported results show that AIC/N value decreases for every subsequent model estimated. The value is the lowest for the full model, suggesting that added variables have improved the likelihood without penalizing the complexity. McFadden Pseudo R squared value is highest for the full model as well. Overall, all four models are significant at *p*-value < 0.001 as represented by Chi-squared values.

Table 3. Results of Ordered Probit Regression Models

	Basic (Model 1)	Across Age Groups (Model 2)	CS Farming Knowledge (Model 3)	Moderating Effects with Interaction (Model 4)
Intercept	0.306***	0.705**	0.631***	-0.740***
	(0.077)	(0.108)	(0.093)	(0.179)
Gender	-0.091	-0.072	0.120**	0.128***
	(0.048)	(0.048)	(0.050)	(0.050)
Children	0.349***	0.263***	0.187***	0.159***
	(0.055)	(0.057)	(0.056)	(0.058)
Race	-0.217***	-0.171***	-0.149**	-0.128**
	(0.058)	(0.059)	(0.059)	(0.059)
Education	0.177***	0.220***	0.126**	0.148***
	(0.052)	(0.053)	(0.053)	(0.054)
Married	-0.132**	-0.081	-0.166***	-0.141***
	(0.052)	(0.053)	(0.053)	(0.053)

Table 3 (cont.)

	Basic (Model 1)	Across Age Groups (Model 2)	CS Farming Knowledge (Model 3)	Moderating Effects with Interaction (Model 4)
Employed	0.249***	0.149***	0.162***	0.126**
	(0.052)	(0.056)	(0.053)	(0.056)
AvSpend			0.201***	
	0.239***	0.193***	(0.051)	0.181***
	(0.051)	(0.052)		(0.052)
Urban	0.177***	0.165***	0.100	0.094
	(0.054)	(0.054)	(0.056)	(0.055)
Rural	-0.117	-0.129	-0.255***	-0.249***
	(0.064)	(0.065)	(0.065)	(0.066)
AgeGroups		0.093***	-	0.040
		(0.018)		(0.038)
Knowledge			0.043***	0.053***
			(0.002)	(0.005)
AgeKnowledege				-0.003**
				(0.001)
Standardized Akaike Information Criteria (AIC/N)	3.16	3.14	2.97	2.96
McFadden Pseudo R sq.	0.035	0.039	0.093	0.094
Chi-square (d.f.)	226.84***	253.56***	607.75***	619.45***
	(9)	(12)	(11)	(14)

Note: ***$p < 0.01$; **$p < 0.05$ (two-tailed). Standard errors in parentheses.

Nearly all control variables are statistically significant at $P < 0.05$ for all four models. Signs of the coefficients have also remained consistent across the models, barring few exceptions. Since Model 4 is determined to be the best fit based on several criteria as discussed above, we will focus on Model 4 results. Women exhibit higher willingness-to-pay for sustainable and healthy food than men, consistent with previous studies (Alsubhi et al., 2023; Goerditier et al., 2024). Similarly, households with children exhibit higher WTP for CS food products, perhaps driven by parental concerns for nutrition and safety. However, competing budget constraints can reduce WTP for premium-priced sustainable goods, especially in lower-income households (Nam and Suk, 2024). Married individuals or couples tend to have more stable consumption patterns with greater emphasis on food quality, which may increase WTP. However, similar to households with children, larger households' financial responsibilities can dampen willingness-to-pay premiums. This study finds that marital status is negatively related to WTP premiums. Employment status is closely tied to education and income among the strongest predictors of WTP. Hence, highly educated and employed individuals are more likely to pay premiums compared to those who are unemployed.

Higher income individuals who are employed consistently show greater willingness-to-pay premiums for sustainable food (Li and Kallas, 2021; Hu et al., 2024). Food insecurity or unstable employment significantly reduce WTP (Nam and Suk, 2024). This study finds that geographic residence plays an important role in WTP premium for CS food. Urban households are more likely to pay premiums than suburban households, whereas rural households are less likely to pay premiums than suburban households. Large-scale cross-country analyses confirm that regional and spatial factors significantly influence WTP estimates (Li and Kallas, 2021). Urban consumers generally exhibit higher WTP for sustainable food, likely due to greater exposure to sustainability messaging, higher incomes, and better access to such products. Race and ethnicity are underexplored but increasingly important variables explaining food preference and WTP. In this study, white respondents are less likely to pay premium compared to non-whites. This result is likely tied with results related to geographic residence. The urban population is more diverse with a larger percentage of minorities; hence, they report higher WTP in niche markets tied to cultural or ethnic consumption. In the Midwest, from where study samples were drawn, suburban and rural populations tend to be predominantly white and have less inclination to pay premium. This factor is further confounded by income disparities between urban and rural households.

Across all of the estimated models, except Model 4, variables representing age groups exhibit statistically significant and negative coefficients, indicating a higher likelihood of paying a premium for CS food among younger groups compared to older groups. However, the case is different when both age and knowledge are included in the model with the variable representing an interaction between age and knowledge. Therefore, age alone does not have a direct effect on WTP.

Results from regression models show that CS Farming Knowledge is a strong predictor of WTP premiums. When the knowledge variable is included in Model 4, the magnitude of age group coefficients declines and becomes statistically insignificant, indicating that part of the observed differences across age groups operate through differential levels of CS knowledge. Such moderating effect is strongly demonstrated by the sign and significance of the interactive variable. The effect of knowledge weakens as age increases. That is, younger consumers may act more on knowledge, whereas older consumers' WTP is less responsive to it. These results provide clear support for Hypothesis 2 and confirm that CS knowledge moderates the relationship between age groups and willingness-to-pay premium.

Marginal Effects and Predicted Probabilities

Table 4 reports marginal effects of each of the explanatory variables on two of the six ordinal outcomes in the model: not willing to pay any premium (Y = 0) and premium of more than 20% above the prices of conventionally grown food (Y = 5). Interestingly, the effect of CS knowledge through age on the probability of WTP lowest premium (Y = 0) is exactly the same as that for the highest premium (Y = 5).

Table 4. Marginal Effects for Ordered Probit regression using full model results.

	Partial Effects (Y = 0, no price premium)	Partial Effects (Y = 5, more than 20% above)
Gender	-0.042**	0.006**
Children	-0.051***	0.008**
Race	0.041**	-0.007**
Education	-0.048***	0.008**
Married	0.047***	-0.007***
Employed	-0.042***	0.006***
AvSpend	-0.060***	0.009
Urban	-0.031	0.005
Rural	0.085***	-0.011***
AgeGroups	-0.013	0.002
Knowledge	-0.017***	0.003***
AgeKnowledege	0.001**	-0.001**

Note: ***$p < 0.01$; **$p < 0.05$ (two-tailed). Standard errors in parentheses.

Table 5 reports the predicted probability of WTP for all six levels of premium calculated using the estimated coefficients of the full model following Long (1997) for ordered probit models. According to the calculations, the probability of WTP zero premium is slightly more than 26%, and the 20% plus premium is slightly more than 2%. Using the calculated probabilities as weights and the midpoints for each of the six premium categories, the estimated weighted average premium is approximately 5.6% above the average price of food grown conventionally.

Table 5. Predicted Probability of WTP Premium Using Parameters Estimated from Full Regression Model (Model 4)

Willingness-to-Pay Premium Price above Conventionally Grown Food	Probabilities
0 = Not willing-to-pay premium	26.57%
1 = 1%–4% above	23.89%
2 = 5%–9% above	25.02%
3 = 10%–14% above	17.78%
4 = 15%–20%	4.70%
5 = More than 20% above	2.05%

Discussion

The findings provide strong evidence that both age and CS-specific knowledge shape willingness-to-pay for climate-smart food. Younger groups exhibit greater WTP, consistent with prior research on sustainable consumption, but knowledge plays a crucial role in translating pro-sustainability attitudes into economic behavior. Knowledge of farming techniques has a positive and highly significant effect on consumers' willingness-to-pay premium for food grown using CS methods. However, the negative and significant interaction between age and knowledge indicates that this effect diminishes with age. Specifically, while more knowledgeable consumers are more willing

to pay premium, this relationship is stronger among younger individuals and weakens for older respondents, suggesting that younger consumers are more responsive to knowledge in shaping their valuation of sustainably produced food.

For older cohorts, lower responsiveness to CS knowledge suggests that trust, certification, and simple labeling may be more effective than detailed technical information. While the study does not directly address issues of labeling and trust, they could be potential areas of inquiry for future research. Age differences along with urban–rural differences further highlight information access disparities that may influence WTP.

Conclusions, Implications, and Limitations of the Study

This study demonstrates that generational differences in willingness-to-pay for climate-smart food are real but contingent on consumer knowledge of CS farming practices. Policies and marketing strategies that enhance public understanding of specific CS farming practices can amplify demand, particularly among younger groups of consumers. Investments in education, labeling, and public–private partnerships may therefore play a critical role in scaling climate-smart agriculture.

While the study uncovers many interesting relationships between WTP premium and number of explanatory variables, including age groups and knowledge, it has many limitations. Although the study uses an ordinal measure of WTP, there is a potential for hypothetical bias. Future studies may incorporate methods like cheap talk or certainty followup (Penn and Hu, 2018) to mitigate such bias.

In this study, CS farming knowledge was measured using self-reported level of knowledge about 12 specific CS farming practices. Within the survey environment, verifying the claims of knowledge is difficult. In addition, knowledge is likely endogenous to WTP through reverse causality or omitted variable bias.

Another potential issue is the perceived availability of CS food. If a consumer believes such foods are not already available, they may answer strategically, overstating their WTP because they believe it may increase the probability of the item's availability in the market. Hence, incentive compatibility is a potential issue (Carson and Groves, 2007).

Future research should employ longitudinal designs to disentangle cohort and life-stage effects and incorporate revealed-preference data to validate stated WTP. Despite limitations related to self-reported knowledge and other potential biases, the findings offer actionable insights for promoting sustainable food systems.

Acknowledgement

This study was supported by federal grant subaward under USDA Partnerships for Climate-Smart Commodities (NR233A750004G095) through Missouri Organic Association as principal awardee. The IRB approval number for the study is IRB-FY2024-163.

Data Availability Statement

The data used in this study were collected from a private survey and contain confidential respondent information. Due to privacy and confidentiality agreements, the data are not publicly available but can be provided by the corresponding author upon reasonable request.

References

Alsubhi, M., M. Blake, T. Nguyen, I. Majmudar, M. Moodie, and J. Ananthapavan. 2023. "Consumer Willingness to Pay for Healthier Food Products: A Systematic Review." *Obesity Reviews* 24(1):e13525.

Carson, R.T., and T. Groves. 2007. "Incentive and Informational Properties of Preference Questions." *Environmental and Resource Economics* 37:181–210.

Dimock, M. 2023. "Defining Generations: Where Millennials End and Generation Z Begins." Washington, DC: Pew Research Center. Available online: https://www.pewresearch.org/short-reads/2019/01/17/where-millennials-end-and-generation-z-begins/.

Goedertier, F., B. Weijters, and J. Van den Bergh. 2024. "Are Consumers Equally Willing to Pay More for Brands That Aim for Sustainability, Positive Societal Contribution, and Inclusivity As for Brands That are Perceived As Exclusive? Generational, Gender, and Country Differences." *Sustainability* 16(9):3879.

Hu, T., A.A. Mamun, M.N.H. Reza, M. Wu, and Q. Yang. 2024. "Examining Consumers' Willingness to Pay Premium Price for Organic Food." *Humanities and Social Sciences Communications* 11:1249.

Kovacs, A., and G. Keresztes. 2022. "Knowledge and Trust in Sustainable Food Consumption." *Journal of Consumer Behaviour* 21:1034–1048.

Laing, T., Y. Cao, and Y. Zhang. 2024. "Generational Heterogeneity in Sustainable Consumption Decisions." *Sustainability* 16:1150.

Li, S., and Z. Kallas. 2021. "Meta-analysis of Consumers' Willingness to Pay for Sustainable Food Products." *Appetite* 163:105239.

Liang, J., J. Li, X. Cao, and Z. Zhang. 2024. "Generational Differences in Sustainable Consumption." *Sustainability* 16:987.

Long, J.S. 1997. *Regression Models for Categorical and Limited Dependent Variables*. Thousand Oaks, CA: Sage.

Meixner, O., M. Malleier, and R. Haas. 2024. "Towards Sustainable Eating Habits of Generation Z: Perception of and Willingness to Pay for Plant-Based Meat Alternatives." *Sustainability* 16(8):3414.

Nam, S.-J., and J. Suk. 2024. "Influence of Health Food Literacy on Willingness to Pay for Healthier Foods." *International Journal for Equity in Health* 23:80.

Nuttavuthisit, K., and J. Thøgersen. 2017. "The Importance of Consumer Trust for Sustainable Food Markets. *Journal of Consumer Policy* 40:369–390.

Parlasca, M.C., and M. Qaim. 2022. "Meat Consumption and Sustainability." *Global Food Security* 32:100602.

Penn, J.M., and W. Hu. 2018. "Understanding Hypothetical Bias: An Enhanced Meta-analysis." *American Journal of Agricultural Economics* 100(4):1186–1206.

Poore, J., and T. Nemecek. 2018. "Reducing Food's Environmental Impacts through Producers and Consumers." *Science* 360:987–992.

Sanchez-Sabate, R., and J. Sabaté. 2019. "Consumer Attitudes towards Environmental Concerns and Meat Consumption." *Appetite* 132:1–7.

Tung, S.J., J.C. Tsay, and M.-C. Lin. 2015. "Effects of Age and Children on Organic Food Choices." *British Food Journal* 117:726–742.