Research Poster

Agricultural Literacy: The Influence of Family & Identity among Youth

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Introduction: Agricultural literacy is the ability to understand, think critically about, and communicate key concepts surrounding systems of food and fiber production (Frick, Kahler, & Miller, 1991). Building agricultural literacy among current and future consumers provides an opportunity to increase the knowledge, skills, and motivations needed to support sustainable agricultural systems. Although educating all youth about agriculture is critical to ensuring widespread support for sustainable food systems, not all students learn in the same ways (Stevenson, Peterson, & Dunn, 2018). Learning variation can be tied to teaching methods and pedagogy (Nasir & Cobb, 2006; Staples, Worsley, Green, & Carroll, 2019). However, variation also exists across sociodemographic factors (Stevenson et al., 2014) and can perhaps partially be explained by the influence of adult family members (Lawson, Stevenson, Peterson, Carrier, Seekamp, & Strnad, 2019). Thus, research investigating how agricultural literacy varies across demographic groups among students and their families is critical to the development of agricultural programming that engages a wide audience.

Framework: This research relies on two theoretical frameworks that fall broadly under sociocultural theory, which suggests that learning is a social process and that knowledge creation and meaning making is a constant negotiation between a learner, their peers, and the learning environment (Lave & Wegner, 1991). The first is the Dynamic Interactional Theory Model, which seeks to understand the influence of both the multifaceted nature of the social learning environment and the complex identity of the learner on the child development process (Ballantyne, Connell, & Fein, 1998). Secondly, the research is founded on Intergenerational Learning Theory, which posits that interactions between generations can create reciprocal sharing of knowledge, attitudes, and behaviors (Bottery, 2016). Cultural background can influence learning pathways through background knowledge and inherited attitudes (Bottery, 2016; Staples et al., 2019). Demographic information often serves as a proxy for cultural influences so it is important to examine learning variation across demographic factors. Additionally, parents are usually the primary cultural influencers for children so considering parental attitudes when examining knowledge among youth provides additional insight into the driving factors for gaps in knowledge or differences in attitudes. Using these two frameworks, this research measured agricultural literacy, including commitment to supporting local food systems, among 9-13 year-old children with special attention to variation across student demographics and interactions among family units.

Methodology: The study population is 9-thru-13-year-old children in North Carolina and their parents. We recruited 55 teachers to administer online surveys to students and their parents between August and November 2019. Student surveys assessed agricultural literacy, operationalized here in terms of knowledge of, support for, and attitude towards local food systems. This approach answers calls for research focused on attitudinal and behavioral components of agricultural literacy (Doerfert, 2003; Goodwin, Chiarelli, & Irani, 2011; Vallera & Bodzin, 2016). While this study adopted a deeper approach in order to better understand the relatively narrow issue of local foods, this methodology could be applied to a wide range of agricultural literacy components. Parent surveys addressed consumer behavior and attitudes towards local food. Students and parents were asked to self-report age, gender, and race; parents were also asked about education level, political affiliation, income, and their household composition. In addition to descriptive statistics such as mean and median, multiple linear regression was used to predict student agricultural literacy as a function of student and parent

demographics and parent attitudes and behaviors toward local foods. Correlations were also used to examine connections between student and parent scores.

Results & Conclusions: Youth agricultural literacy did not vary significantly across factors of race, age, household income, or parent education level. Among parents, general attitudes towards local foods and attitudes towards buying local foods were significantly lower among African Americans. Youth demonstrated moderate levels of agricultural literacy and overall, parents displayed positive perceptions towards local food. Intergenerational engagement between youth and parents, especially when related to purchasing and preparing food, was a strong predictor of youth knowledge around agricultural and local food topics. An apparent lack of direct influence of parental attitudes and behaviors on youth agricultural attitudes, behavior, and knowledge could serve as an opportunity for educational interventions that increase youth literacy and work to engage multiple generations in meaningful conversations. Limited disparity in youth agricultural literacy across sociodemographic variables also provides a chance to employ educational methods that improve knowledge and self-efficacy for all youth rather than reinforce problematic disparities found in other academic metrics.

Implications: These results increase the understanding of the state of agricultural knowledge among North Carolina youth. Within the fields of agricultural and environmental education, study results provide insight useful in targeting literacy gaps among diverse populations and developing intergenerational programming designed to target both youth and adults. More broadly, results of this study are applicable to farmers seeking to engage in agritourism efforts, classroom teachers who want to diversify their teaching methods in an effort to connect with more students, and policy-makers who wish to expand economic support for local food systems within the public sector.

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