Predicting Farmers' Involvement in Farm to School Programming

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Introduction/Need for Research

The U.S. Department of Agriculture Farm to School Census (2015) reported that 35% of school districts in [state] participated in farm to school (FTS) programming, accounting for 349 schools and 220,881 students. Despite the number of schools participating, few studies have sought to examine the perspectives of primary stakeholders, such as farmers, in FTS programming (Izumi, Wright, & Hamm, 2010; Joshi, Azuma, & Feenstra, 2008). Lack of literature on the role of farmers in FTS programming presents a problem for stakeholders interested in program creation and success; this problem aligns with Research Priority Area Two of the National Research Agenda (Roberts, Harder, & Brashears, 2016). Without understanding the roles of all stakeholders involved in FTS programming, the relationships between groups such as farmers and food service directors may not occur and involvement in FTS programs may not increase (Izumi, Alaimo, & Hamm, 2010). Survey results provided information to the [state] State Board of Education's Farm to Fork task force on how to increase the amount of locally sourced products in school systems, expand educational activities in the classroom, and establish more school gardens. The purpose of this study was to describe respondents' role in FTS programming and their interest in institutional marketing of local foods. The research objective addressed in this manuscript was to describe the relationship between respondents' attitude, subjective norms, and perceived behavioral control in predicting intentions to participate in farm to school programming.

Theoretical Framework

The theory of planned behavior was the theoretical framework for this study. Three factors (attitude, subjective norms, and perceived behavioral control) interact with one another to form intent, eventually leading to the behavioral outcome in question (Ajzen, 1991). Attitude represents an individual's summary evaluation of psychological concepts or objects described in such paradigms as good-bad or harmful-beneficial, forming a positive or negative attitude toward the behavior (Ajzen, 1991). Subjective norms are described as the perceived social pressures influencing individuals to act on a behavior one way or another (Ajzen, 1991). Perceived behavioral control (PBC) is described as an individual's perceived ease or difficulty in taking part in a specific behavior (Ajzen, 1991). PBC is associated with experiences and the expected complications of performing a new behavior (Ajzen, 1991). Although described as an attribute contributing to the formation of intention, PBC also plays a key role in affecting behavior directly (Ajzen, 1991). Behavioral intention is an individual's perception of the ease of performing the behavior in question (Fielding et al., 2008). A general assumption regarding the theory is that the more favorable the attitudes and subjective norms are in relation to a behavior, and the higher PBC, the chances that the individual engages in the behavior becomes greater.

Methodology

This study utilized descriptive explanatory research. Online survey research methods were implemented to gather information to describe respondents' attitudes toward FTS, subjective norms that influence respondents' participation in FTS programming, participation in FTS activities, perceived behavioral control toward FTS participation, and intention to participate in FTS programming. The population examined in this study was farmers who belonged to the [State] Farm Bureau (N = 5,470). The questionnaire was developed by the researchers with some

questions being modeled after FTS programming studies by Conner et al. (2012), Erpelding, Pinard, and Yaroch (2011), and Izumi et al. (2010). Survey data collection methods followed Dillman's (2011) *Tailored Designed Method*. A panel of experts with knowledge in survey methodology or FTS programming established content and face validity. Non-response error was addressed by comparing early respondents to late respondents on key demographic variables, identifying no statistically significant differences between the two groups. One-hundred and forty-three respondents participated in the study.

Results

Multiple linear regression examined the ability of attitude, subjective norms, and perceived behavioral control to predict farmers' intention to participate in FTS programming. The regression model was significant and indicated good fit, with $F = 29.60$, $p < .001$. The three variables accounted for 67.2% of the variance in influence on the intention of respondents to participate in FTS programming (Adjusted $R^2 = 46.0\%$). Table 1 showed that the subjective norm variable significantly predicted the intention of respondents to participate in FTS programming, $t(112) = 6.12$, $p < .001$. The perceived behavioral control variable also significantly predicted the intention of respondents to participate in FTS programming, $t(112) = 4.61$, $p < .001$. The positive beta values of 0.518 and 0.400 revealed that as the influence of subjective norms and perceived behavioral control increased, so did intention to participate in FTS programming.

Table 1. *Multiple Regression Analysis for TPB Variables Predicting Intention to Participate in FTS Programming*

Variable	*B*	*SE B*	*95%CI*	*B*	*t*	*p*
Constant	- 0.071	0.379	[-0.82, 0.68]		-0.186	.852
Attitude	0.071	0.053	[-0.03, -0.18]	.09	1.347	.181
Subjective Norms	0.518	0.085	[0.35, 0.69]	.46	6.117	.000
Perceived Behavioral Control	0.400	0.087	[0.23, 0.57]	.35	4.613	.000

Note. $R^2 = .45$ ($n = 113$, $p < .001$). CI = confidence interval for *B*.

Conclusions/Recommendations/Implications

Attitude, subjective norms, and perceived behavioral control accounted for 67.2% of the variance in intention to participate in FTS programming. These findings suggest other factors contribute to intention to participate in FTS programming. Researchers could investigate other groups of farmers to determine if these components of the theory of planned behavior successfully influence their intention to participate in FTS programming. Researchers should further explore the attitudinal component of the theory of planned behavior to determine if it successfully influences intention to participate in other groups of farmers. Additional factors, such as demographics, knowledge, past involvement, benefits, and barriers should be independent variables analyzed with multiple regression to better predict farmers' intention to participate in FTS programming. Agricultural communicators and Extension professionals have a better understanding of who to work with and how to communicate with farmers interested in FTS programming. With these TPB factors known, it could be easier for Extension professionals to more easily communicate about FTS programming and provide training and resources needed to assist farmers in selling locally grown products and participate in farm to school activities.

References

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes, 50*(2), 179-211. doi: 10.1016/0749-5978(91)90020-T

Conner, D., King, B., Kolodinsky, J., Roche, E., Koliba, C., & Trubek, A. (2012). You can know your school and feed it too: Vermont farmers' motivations and distribution practices in direct sales to school food services. *Agriculture and Human Values, 29*(3), 321-332. doi: 10.1007/s10460-012-9357-y

Dillman, D. A. (2011). *Mail and internet surveys: The tailored design method—2007 update with new internet, visual, and mixed-mode guide*. Hoboken, NJ: Wiley.

Erpelding, C. D., Pinard, C. A., & Yaroch, A. L. (2011). *Farm-to-school needs assessment: Results and implications from stakeholder surveys*. Retrieved from http://centerfornutrition.org/wpcontent/uploads/2011/04/Farm-to-School-Needs-Assessment-Report.pdf

Izumi, B. T., Alaimo, K., & Hamm, M. W. (2010). Farm-to-school programs: Perspectives of school food service professionals. *Journal of Nutrition Education and Behavior, 42*(2), 83-91. doi: 10.1016/j.jneb.2008.09.003

Izumi, B. T., Wright, D. W., & Hamm, M. W. (2010). Market diversification and social benefits: Motivations of farmers participating in farm to school programs. *Journal of Rural Studies, 26*(4), 374-382. doi: 10.1016/j.jrurstud.2010.02.002

Joshi, A., Azuma, A. M., & Feenstra, G. (2008). Do farm-to-school programs make a difference? Findings and future research needs. *Journal of Hunger & Environmental Nutrition, 3*(2-3), 229-246. doi: 10.1080/19320240802244025

Roberts, T. G., Harder, A., & Brashears, M. T. (Eds). (2016). *American Association for Agricultural Education national research agenda: 2016-2020.* Gainesville, FL: Department of Agricultural Education and Communication.

U.S. Department of Agriculture. (2015). *USDA farm to school FY 2015 grant awards*. Retrieved from http://www.fns.usda.gov/sites/default/files/f2s/FY_2015_Grant_Award_Summaries.pdf