

8-22-2023

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Recommended Citation

Harder, A., Craig, D., Israel, G., Benge, M., & Caillouet, O. (2023). Exploring the Possibilities of a Standardized Questionnaire for Assessing Residents' Needs. *The Journal of Extension*, 61(2), Article 1. <https://doi.org/10.34068/joe.61.02.01>

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Cover Page Footnote

We would like to acknowledge the original work of Narine et al. (2020) and thank Dr. Lendel Narine of Utah State University Extension for his willingness to let us explore the possibilities of a needs assessment questionnaire that could be standardized across state Extension systems.

Exploring the Possibilities of a Standardized Questionnaire for Assessing Residents' Needs

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Abstract. Creating a standardized needs assessment instrument and methodology that can be shared across the Extension system can lead to increased capacity to identify the needs of our clientele. The purpose of our study was to determine if a questionnaire originally created to assess needs in Utah could be used to identify priority areas for programming as perceived by the residents of Florida. Data were obtained from individuals who opted in to survey panels administered by Qualtrics. Adapting the Utah questionnaire resulted in the identification of four priority areas and saved organizational resources by decreasing the time needed for instrument development.

INTRODUCTION AND CONCEPTUAL FRAMEWORK

Angima et al. (2014) state that, “The foundation of a successful Extension program is a solid needs assessment” (para. 3). Organizations systematically engage in the needs assessment process to identify and prioritize needs, allocate resources for action, and fix problems (Altschuld & Kumar, 2010), and experts regard needs assessments as an effective tool for identifying unmet needs (Caravella, 2006). In Extension, needs assessments are useful tools for meeting the needs of diverse geographic communities and assisting “educators in identifying opportunities for cross-collaboration with partners” (Bayer et al., 2020, para. 2).

The needs of organizations fall into distinct groups, or levels of need: level 1 refers to primary needs, or those of service receivers; level 2 is secondary needs, or those of service providers; and level 3, or tertiary needs, have to do with resources or solutions (Altschuld & Kumar, 2010; Witkin & Altschuld, 1995). Although all levels of organizational needs are important, the “needs of Level 1 should always be prime in the needs assessment process” (Altschuld & Kumar, 2010, p. 23). Extension’s service receivers are often community residents, and the scale of a needs assessment can vary between programs, counties, and states.

Needs assessments conducted within Extension often focus on secondary or tertiary needs (e.g., Mincemoyer & Corbin, 2001; Phibbs et al., 2005; Singletary et al., 2017; Wil-

lie et al., 2019). There is a lack of published statewide needs assessment data, especially regarding primary-level needs. State-level needs assessments tend to be conducted in conjunction with the creation of multi-year strategic plans—like the 10-year plan used in our state—risking the possibility that stale data guides programming efforts. Conducting needs assessments more frequently can be resource-intensive, creating a burden for Extension professionals and organizations. However, it is vital that Extension understands stakeholders’ needs to effectively plan programs, allocate resources, and aid in multi-state programming efforts (Garst & McCawley, 2015). There is an opportunity to collaborate and create a standardized needs assessment instrument and methodology that can be shared across the Extension system, leading to an increased capacity to identify the needs of our clientele.

PURPOSE AND OBJECTIVES

In 2019, Narine et al. (2020) conducted a three-phase needs assessment in Utah that included the development of an extensive survey instrument designed to measure how much priority Utah residents felt should be assigned to a variety of needs. They found that needs could be categorized into four priority areas: community development, conservation capacity, agriculture and food safety, and environmental quality. The purpose of our study was to determine if the process and instrument used by Narine et al. (2020) could be used to assess needs in Florida. Specifically, we assessed this

approach by identifying and categorizing needs into priority areas most relevant to Florida.

METHODS

We used a non-experimental descriptive research design for the study. The target population was adults living in Florida. The actual population consisted of individuals who opted into Qualtrics survey panels. Qualtrics aggregates panelists from multiple vendors—who provide an incentive for participating respondents—and distributes invitations with a direct link to the survey. Qualtrics employed researcher-specified quotas on age, sex, race-ethnicity, and income to match distributions of Florida residents according to 2019 U.S. Census Bureau data.

Narine et al. (2020) developed the original instrument. As a professional courtesy, we asked and received permission to use it in Florida. We examined the instrument for validity within Florida's context and determined that adaptations were necessary. For example, Utah has land dedicated to open-range grazing, and the instrument included questions about rangeland management. However, Florida is not an open range state; we do have an extensive coastline, so we added items related to that land type instead. Furthermore, we reduced the survey length by deleting the sections not relevant to our needs assessment goals: willingness to attend programs, preferences for receiving information, level of engagement with Extension, satisfaction with Extension, and experiences with natural disasters. Finally, we made minor adjustments to the wording of several items to improve clarity, such as replacing a generic term (food stamps) with a specific term (EBT). The final instrument assessed three categories of information: perceptions of how UF/IFAS Extension should expend effort, importance and availability of assets, and demographic items. Only the first section was relevant to the purpose of this article.

Within the survey itself, we provided participants with an operational definition of UF/IFAS Extension and its mission. Then, they were asked to indicate how much effort they thought UF/IFAS Extension should spend on a list of 43 issues. Examples from the list included: protecting air quality, assisting farmers in agricultural production, helping consumers make healthy food choices, assisting local businesses with land use decisions, building healthy families, and protecting the coastal environment. Response options were: 1 = *no effort*, 2 = *low effort*, 3 = *moderate effort*, 4 = *high effort*, and 5 = *very high effort*. We interpreted this scale as: 1.00 – 1.49 = *no effort*, 1.50 – 2.49 = *low effort*, 2.50 – 3.49 = *moderate effort*, 3.50 – 4.49 = *high effort*, and 4.50 – 5.00 = *very high effort*. Demographic items included: age group, sex, annual household income, racial-ethnic background, zip code, education, residency status, residential setting, tenure in Florida, language, and employment status.

We collaborated with Qualtrics for data collection and contracted them to provide 1,500 respondents. The survey opened in May and concluded in early July 2020. We conducted a data quality check early on, and both Qualtrics and our team identified multiple bogus respondents. In response, we implemented additional fraud prevention strategies—such as a commitment question, an open-ended item, and a longer minimum cutoff time—beyond the three attention check questions already included in the survey. Qualtrics continued inviting individuals to complete the survey until we received 1,500 usable responses. In total, we received 2,397 responses. We applied screening criteria to eliminate unqualified respondents, such as those who were not Florida residents or had non-Florida zip codes, those who were under 18 years of age, and those who were not committed to providing honest answers; this criteria accounts for most of the discarded responses. We eliminated some additional responses for reasons such as poor-quality open-ended responses (e.g., gibberish or vulgar responses) and straight-lining, as recommended by Kennedy et al. (2020). The number of bogus respondents was higher than expected; more information about the challenges we had with bogus respondents is available in Harder et al. (2021).

Quota samples are usually well-balanced and representative of the survey population in regards to the attributes used for the quotas, but they are not necessarily representative of the full population in regards to other respondent attributes. Our study met quotas for age, sex, race-ethnicity, and income, but the distribution for education and metro-nonmetro county residence classification were misaligned with the Florida population distribution reported by the U.S. Census Bureau (2019). For example, 18.6% of respondents reported attaining a high school diploma or less, while the 2019 U.S. Census Bureau indicates that 40.9% of Florida residents had that level of education. Nonmetropolitan residents were underrepresented in our sample (1.9% of respondents) as compared to the Census data (3.8% of Florida residents). Consequently, we used SPSS' Rake procedure (IBM SPSS Statistics Version 25) to calculate post-stratification weights to address this limitation of the study. We obtained values for the total controls from the U.S. Census Bureau's American Communities Survey one-year estimates for 2019 and the 2010 Rural-Urban Commuting Area Codes from the U.S. Department of Agriculture's (USDA) Economic Research Service (2020). This balances the data to adjust for coverage and nonresponse error, although bias can remain for variables excluded from the raking procedure (see Biemer & Christ, 2008). We used weighted data to conduct all subsequent analyses.

We then conducted a principal component analysis (PCA) with orthogonal rotation to identify the underlying factors from the comprehensive list of issues assessed by respondents, consistent with the methods of Narine et al.

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(2020). The Kaiser-Meyer-Olkin measure of sampling adequacy was .97, while Bartlett's test of sphericity was significant ($X^2 = 52,266.24, p < .01$) and indicated that the data was suitable for PCA analysis. A scree plot (Cattell, 1966) provided insight into the number of factors to retain. We conducted exploratory analysis with both four and five factors. We chose to retain four factors due to the improved "meaningfulness" (Pituch & Stevens, 2016, p. 343) of the model as compared to retaining five factors. Pituch and Stevens (2016) suggest that coefficient value thresholds of .40 or .50 could be used to guide decisions about which variables should be used to interpret a factor. They indicated the "more stringent value [.50] seems sensible to use . . . if it improves factor interpretability" (Pituch & Stevens, 2016, p. 346), which applied to our dataset, so we used a .50 coefficient value threshold.

FINDINGS

The objective of this survey was to identify and categorize needs into priority areas relevant to Florida. We identified four priority issue areas, operationally defined as Healthy People, Healthy Food Systems, Healthy Environments, and Healthy Communities. The four priority issue areas accounted for almost 63% of the variance in the original issue items, with Healthy People accounting for 23%.

Thirty-six priority issue items reached our minimum factor loading threshold of 0.5 (see Table 1). The Healthy People priority issue included items addressing prescription and illegal drug abuse, mental health and suicide prevention, and relationships. Healthy Food Systems included water and air quality protection, strong food systems, assisting farmers, and safe and affordable food. The Healthy Environments priority issue included items focused on protecting marine and freshwater resources and the natural environment and preventing threats from invasive species. The two items with the highest factor loadings for Healthy Communities were assisting local businesses with land use decisions and assisting local government with land use decisions, but there were also items related to helping households.

CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS

We identified four priority areas that include the primary needs (Witkin & Altschuld, 1995) that require attention from UF/IFAS Extension: (a) healthy food systems, (b) healthy environment, (c) healthy people, and (d) healthy communities. Although our study largely replicated the priority issue items first identified by Narine et al. (2020), the priority issue areas differed in their composition. For example, Utah residents' views of individual health items were more strongly related to community health items than Florida residents', so Narine et al. (2020) clustered those items into a single pri-

ority issue area (Community Development) as opposed to two separate priority issues (in the case of this study, Healthy People and Healthy Communities). Geographic and cultural differences between respondents may impact how they view the relationships between survey items. Survey methodologists have shown that small changes in the wording of questions, order of responses, item order, and item content also influence respondents' answers (Dillman et al., 2014), and this may also have contributed to the differences in responses between the two states. Additional research is necessary to understand how the unique contextual factors of each state may influence service receivers' views of priority issues.

Given our experience, Extension professionals can adopt a needs assessment instrument from another state and tailor it to their situation—which helps to conserve resources. In both Utah and Florida, the staffing and resources required for data collection, data cleaning and analysis, and report creation were substantial. However, adapting Utah's instrument for Florida allowed us to invest fewer resources into survey development than our Utah colleagues. Local counties often have even fewer available resources than state Extension units to dedicate to creating needs assessments. This means that needs assessment instruments developed at the state level should require little or no change to be applicable at the county level. Determining the optimal approach for collecting data from state residents will require additional research.

Extension professionals should use needs assessment results to develop programs (Angima et al., 2014) and seek out partnerships for programming (Bayer et al., 2020). We also suggest a statewide needs assessment focused on primary needs to drive decisions about resource allocation, such as those related to hiring decisions and budgetary allocations (Witkin & Altschuld, 1995). As did the Extension professionals in Utah, we have developed and distributed multiple infographics for our state Extension system to make it easy for county and state level Extension professionals to use the needs assessment data to drive and improve practice. We recommend other states interested in replicating the process do the same, ensuring Extension professionals have the most current data available to enact change in their communities.

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Table 1. Summary of Principal Components Analysis and Extracted Priority Issue Areas

Item	Rotated Factor Loadings			
	HP	HFS	HE	HC
Addressing prescription drug abuse	.857	.183	.094	.129
Preventing suicide	.854	.231	.109	.026
Addressing mental health	.852	.194	.155	.049
Addressing illegal drug abuse	.844	.182	.100	.106
Addressing alcohol abuse	.837	.127	.072	.227
Teaching healthy relationship skills to teens	.723	.122	.221	.280
Strengthening couple and/or marital relationships	.715	.059	.132	.298
Strengthening the financial well-being of small businesses	.654	.101	.206	.373
Helping first-time homeowners make smart financial decisions	.646	.074	.082	.446
Strengthening workforce readiness	.636	.135	.216	.312
Building healthy families	.610	.182	.263	.359
Addressing hunger issues	.571	.356	.267	.185
Preventing chronic disease	.561	.486	.166	.188
Providing physical fitness education	.551	.326	.123	.388
Protecting water quality	.077	.734	.371	-.011
Protecting air quality	.148	.733	.288	.065
Strengthening the local food system	.166	.731	.167	.305
Ensuring safe food handling practices to prevent foodborne illnesses	.244	.730	.237	.021
Promoting economic development	.331	.647	.095	.249
Assisting farmers in agricultural production	.070	.640	.203	.332
Preserving farmland	.022	.609	.300	.234
Ensuring individuals have access to affordable healthy food	.378	.604	.166	.235
Protecting the coastal environment	.179	.252	.792	.159
Protecting freshwater resources (e.g., lakes, rivers, springs, wetlands)	.188	.291	.769	.091
Protecting natural habitats and ecosystems	.215	.258	.758	.076
Reducing saltwater intrusion	.114	.155	.757	.269
Protecting the marine environment	.243	.283	.757	.126
Controlling invasive pests (e.g., animals, insects)	.131	.148	.719	.165
Controlling invasive plants	-.014	.159	.609	.332
Assisting local businesses with land use decisions	.198	.171	.286	.697
Assisting local government with land use decisions	.142	.248	.312	.650
Building the capacity of community nonprofits	.439	.189	.200	.610
Helping urban communities improve their quality of life	.439	.191	.245	.518
Helping rural communities improve their quality of life	.363	.282	.238	.517
Helping households become more energy efficient	.419	.274	.242	.510
Helping households reduce water use	.357	.085	.433	.502
Eigenvalues	9.89	6.13	5.67	5.33
% Variance	23.00	14.26	13.18	12.39

Note. Priority issues: HP = *Healthy People*, HFS = *Healthy Food Systems*, HE = *Healthy Environment*, and HC = *Healthy Communities*.

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