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Participant Motivations for Joining an Extension Program

Phillip L. Waters Jr.
Auburn University

Daniel R. Petrolia
Mississippi State University

William C. Walton
Auburn University

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Participant Motivations for Joining an Extension Program

Abstract

We asked participants of Gulf of Mexico, Chesapeake Bay, and Atlantic Coast restoration-focused oyster gardening programs (OGPs) about motivations for joining an OGP and engaging in an activity in general at the gardening site before and after joining an OGP. Regarding motivations to join an OGP, environmental improvement was a stronger motivation than opportunity to learn or fishing improvement, both of which were generally greater than social motivations. Additionally, OGP participation was not significant in changing motivations for engaging in an activity in general at the gardening site, suggesting that a focus on initial motivators for engaging in an associated activity may be key to Extension program volunteer recruiting and retention efforts.

Keywords: oyster gardening, volunteer, recruiting, retention, motivation

Phillip L. Waters Jr.
Associate Extension Professor
School of Fisheries, Aquaculture and Aquatic Sciences
Auburn University

Daniel R. Petrolia
Professor
Department of Agricultural Economics
Mississippi State University

William C. Walton
Professor
School of Fisheries, Aquaculture and Aquatic Sciences
Auburn University

Introduction

Extension has increasingly involved volunteers to educate and inspire other potential program participants and stakeholders (Osborne, 2005; Rohs et al., 2002; Rouse & Clawson, 1992). Identifying, recruiting, and retaining volunteers is a challenge many Extension programs must negotiate to grow. Substantial programmatic time and capital investments can be necessary for volunteer growth and maintenance. We considered the Extension program commonly referred to as oyster gardening to determine whether identifiable motivations supporting the decision to join an oyster gardening program (OGP) exist. Additionally, we investigated motivations for engaging in an activity in general at the gardening site prior to and following OGP participation to measure any changes attributable to participation in the program.

Kempton (1980) explored the idea of volunteers in Extension programs and surmised that the ability to further a program constitutes only one part of the motivation to volunteer. He pointed out that the individual also has needs related to the volunteerism. Terry et al. (2013) drew a parallel between volunteer retention and customer loyalty. These researchers concurred with Hart (2005), Kempton (1980), and Tyler (1966) in that successfully meeting the needs of volunteers manifests in improved volunteer retention.

Tyler (1966) referred to lack of information about volunteer need, lack of training, stagnation that results in

lack of opportunity to grow in a program, supervisory shortcomings, lack of flexibility regarding a volunteer's schedule, and changes in a volunteer's needs that go unmet as contributing factors to volunteer separation. Fry and Langellotto (2013) characterized programs retaining problematic volunteers as having an overall reduction in volunteer productivity and morale, leading to loss of individual volunteers. Extension programs should expect some volunteer separation and failure events. However, understanding and meeting the needs of volunteers (Leslie et al., 2011), providing ongoing support for the motivation to volunteer, and incorporating flexibility to adapt to volunteers' changing conditions will reduce the separation rate.

For Extension programs that are reliant on volunteers, program leaders must ensure that volunteers are both satisfied and effective for the program. Individuals are unlikely to continue to allocate time to an activity that does not return some level of benefit to the self. A more complete recognition of volunteer needs allows for greater recruiting and retention efficiencies. Further, by reducing the investment necessary for volunteer maintenance, program leaders may direct resources to generating stronger impacts and accomplishments. Although we focus on motivators for OGP participants, the larger concept explored herein of identifying motivational needs of volunteers for program enhancement is broadly relevant to Extension.

Methods

Instrumentation

We developed an original questionnaire, approved by the Auburn University Institutional Review Board, to collect information from current and former participants in OGPs along the U.S. Gulf of Mexico, Chesapeake Bay, and Atlantic coasts whose seasonal production is returned to a restoration effort; we excluded programs limited to production for personal consumption. We conducted face and content validation of the instrument using a Delphi analysis. Respondents self-identified their program affiliation and gardening status (current or former). We categorized respondents into regions according to their identified program affiliations and defined the strata by region and program. We asked respondents to select three of six specified motivations (environmental improvement, fishing improvement at gardening site, meeting new people, recreational time with family/friends, learning new things, "other") to identify what led to their joining a local OGP. We also asked respondents to select all applicable specified motivations (environmental improvement, recreational time for self, recreational time with family, recreational time with friends/neighbors, business opportunities, "other") for engaging in an activity in general at the gardening site before and after their participation in the OGP.

Participants

Participants received the survey via email invitation, generated through Qualtrics and delivered directly from the participating OGPs between September 5, 2017, and January 26, 2018. By having respondents participate electronically, we eliminated obstacles of distance and the need for a survey administrator while maintaining participant anonymity. To increase response rate, we provided participating program managers three reminders for use in newsletters or direct communications with their participants. Further, we provided compensation in the form of a $5 gift card link (via Qualtrics) to each respondent who completed a response. The sampling procedure was probability based, stratified, and random. Of 1,114 program participants representing 11 OGPs, we received 279 completed responses (25% response rate). Respondent program affiliations and gardener statuses along with program response rates are shown in Table 1.

Table 1.
Respondent Classifications by Program and Gardener Status and Program Response Rates

State	Program	Region	Current gardener	Former gardener	Response rate (total participants)
Texas	Galveston Bay	Gulf of Mexico	13	0	15.7 % (83)
Mississippi	Mississippi	Gulf of Mexico	5	0	55.5% (9)
Alabama	Mobile Bay	Gulf of Mexico	32	11	46.7% (92)
Alabama	Little Lagoon	Gulf of Mexico	15	0	60.0% (25)
Florida	Gulf of Mexico	Gulf of Mexico	4	1	33.3% (15)
Florida	Atlantic Coast	Atlantic	45	9	25.5% (212)
Virginia	Chesapeake Bay Foundation	Chesapeake	79	3	27.3% (300)
Virginia	Tidewater Oyster Gardening Association	Chesapeake	12	0	— [a]
Maryland	Chesapeake Bay Foundation	Chesapeake	19	5	20.0% (120)
Maryland	Choptank River Alliance	Chesapeake	9	0	15.5% (58)
New Hampshire	New Hampshire	Atlantic	17	0	8.5% (200)

[a] The Tidewater Oyster Gardening Association did not provide membership information for the program.

Data Analysis

We conducted statistical analyses using IBM's Statistical Package for Social Sciences, Version 25.

Results and Discussion

Within Regions and Programs

Regarding motivations for joining an OGP, we found that respondents generally gravitated to environmental improvement, followed by opportunity to learn and fishing improvement at the gardening site. Respondents were comparably less motivated by social opportunities, suggesting a motivational preference rather than a random distribution. Analysis indicated that respondents at each regional level and eight of the 11 program levels selected at least two categories of motivation at a rate that varied significantly from the expected distribution. The Alabama Little Lagoon, Mississippi, and Florida Gulf of Mexico programs—which were less

than 2 years old; were comparably smaller, with 25, 9, and 15 participants, respectively; and had small sample sizes (n = 15, 5, and 5, respectively)—showed no significant differences. Relevant data are shown in Table 2.

Table 2.
Proportions of Respondents (Regional and Program Levels) Selecting Motivations for Joining Oyster Gardening Program Compared to Expected Distribution

	Environmental improvement		Fishing improvement at gardening site		Meeting new people		Recreational time with family/friends		Learning new things		Other	
	Selection		Selection		Selection		Selection		Selection		Selection	
Affiliation	%	*p*	%	*p*	%	*p*	%	*p*	%	*p*	% [a]	*p*
Region												
Gulf of Mexico	78.5	≤.001	35.4	.01	0.0		8.9	≤.001	43.0	.216	8.9	≤.001
Atlantic	94.2	≤.001	36.2	.022	2.9	≤.001	5.8	≤.001	47.8	.718	20.3	≤.001
Chesapeake Bay	92.9	≤.001	42.1	.075	4.8	≤.001	3.2	≤.001	46.8	.476	12.7	≤.001
Program												
TX	92.3	.002	46.2	.782	0.0		7.7	.002	30.8	.166	15.4	.013
MS	60.0	1.00	60.0	1.00	0.0		0.0		40.0	1.00	20.0	.375
ALLL	73.3	.071	40.0	.439	0.0		0.0		53.3	.796	0.0	
ALMB	81.0	≤.001	28.6	.005	0.0		14.3	≤.001	42.9	.355	9.5	≤.001
FLGOM	50.0	1.00	25.0	.623	0.0		0.0		50.0	1.00	0.0	
FLAC	96.2	≤.001	32.7	.013	1.9	≤.001	7.9	≤.001	42.3	≤.001	17.3	≤.001
VACBF	93.9	≤.001	43.9	.269	6.1	≤.001	3.7	≤.001	47.6	.659	11.0	≤.001
VATOGA	91.7	.004	50.0	1.00	0.0		0.0		58.3	.564	16.7	.021
MDCBF	91.3	≤.001	30.4	.061	0.0		0.0		47.8	.835	21.7	.007
MDCHOP	88.9	.020	44.4	.739	11.1	.020	11.1	.020	22.2	.096	0.0	
NH	88.2	.002	47.1	.808	5.9	≤.001	0.0		64.7	.225	29.4	.090

Note. All expected cell frequencies were not greater than 5. We used a Monte Carlo procedure to estimate and report exact p values. TX = Texas. MS = Mississippi. ALLL = Alabama Little Lagoon. ALMB = Alabama Mobile Bay. FLGOM = Florida Gulf of Mexico. FLAC = Florida Atlantic Coast. VACBF = Virginia Chesapeake Bay Foundation. VATOGA = Virginia Tidewater Oyster Gardening Association. MDCBF = Maryland Chesapeake Bay Foundation. MDCHOP = Maryland Choptank River. NH = New Hampshire.

[a] Responses were classified into logical categories, and statistical analyses were repeated. We found no changes in significance between the

as-reported and reclassified results.

With a preference of motivation established, we explored each region and specific program to determine whether a hierarchy existed. Provision of educational opportunities is common across OGPs and their funders. Therefore, we chose to compare all other motivations to the motivation of having learning new things not only to obtain insight regarding the volunteers but also to identify potential references of success for future funding opportunities. We found significant differences among motivations for joining an OGP within each region (Table 3). By conducting post hoc pairwise comparisons using Dunn's (1964) procedure with a Bonferroni correction for multiple comparisons (adjusted *p* values presented; all subsequent post hoc analyses follow this form), we determined that respondents from each region were most likely to select environmental improvement as compared to any other option (Table 3). After environmental improvement, respondents selected learning new things and fishing improvement at the gardening site similarly within each region. Further, respondents selected each of these statistically significantly more frequently than the social motivators of meeting new people and recreational time with friends/family or the general category "other." Similarly, we found differences among motivations of participants within each program except Florida Gulf of Mexico and Mississippi (Table 3). We suspect that the lack of significance for these two programs is a result of the small sample sizes noted earlier (n = 5 and 4, respectively). Post hoc pairwise comparisons generally reflected regional findings. Respondents selected environmental improvement statistically more frequently than learning new things in five of the remaining programs. Reflecting the regional findings, learning new things was statistically equivalent to fishing improvement at the gardening site within each program level.

Table 3.
Comparison of Learning New Things and Each of Five Presented Alternative Motivations for Joining Oyster Gardening Program

Level (selection %)	Environmental improvement	Fishing improvement at garden site	Meeting new people	Recreational time with friends/family	Other
Gulf of Mexico (43.04%)	78.5%	35.4%	0.0%,	8.9%	8.9%
$X^2_{(5)}$ = 156.83,	$p \leq .001$	$p = 1.00$	$p \leq .001$	$p \leq .001$	$p \leq .001$
$p \leq .001$					
Atlantic (47.8%)	94.2%	36.2%	2.9%	5.8%	20.3%
$X^2_{(5)}$ = 165.140,	$p \leq .001$	$p = 1.00$	$p \leq .001$	$p \leq .001$	$p \leq .001$
$p \leq .001$					
Chesapeake Bay (46.8%)	92.9%	42.1%	4.8%	3.2%	12.7%
$X^2_{(5)}$ = 311.87,	$p \leq .001$	$p = 1.00$	$p \leq .001$	$p \leq .001$	$p \leq .001$
$p \leq .001$					
ALLL (53.3%)	73.3%	40.0%	0.0%	0.0%	0.0%
$X^2_{(5)}$ = 36.9,	$p = 1.00$	$p = 1.00$	$p = .022$	$p = .022$	$p = .022$
$p \leq .001$					
ALMB (45.5%)	54.5%	45.5%	0.0%	18.2%	18.2%

$X^2_{(5)}$ = 11.39, p = .044	p = 1.00 [a]	p = 1.00 [a]	p = .34 [a]	p = 1.00 [a]	p = 1.00 [a]
FLAC (42.3%) $X^2_{(5)}$ = 131.02, $p \leq .001$	96.2% $p \leq .001$	32.7% p = 1.00	1.9% $p \leq .001$	7.7% p = .004	17.3% p = .13
FLGOM (50.0%) $X^2_{(5)}$ = 6.30, p = .278	50.0%	25.0%	0.0%	0.0%	0.0%
MDCBF (47.8%) $X^2_{(5)}$ = 58.03, $p \leq .001$	91.3% p = .035	30.4% p = 1.00	0.0% p = .012	0.0% p = .012	21.7% p = 1.00
MDCHOP (22.2%) $X^2_{(5)}$ 21.67, $p \leq .001$	88.8% p = .04	44.4% p = 1.00	11.1% p = 1.00	11.1% p = 1.00	0.0% p = 1.00
MS (40.0%) $X^2_{(5)}$ = 8.64, p = .124	60.0%	60.0%	0.0%	0.0%	20.0%
NH (64.7%) $X^2_{(5)}$ = 38.49, $p \leq .001$	88.2% p = 1.00	47.1% p = 1.00	5.9% p = .011	0.0% p = .003	29.4% p = .647
TX (30.8%) $X^2_{(5)}$ = 31.92, $p \leq .001$	92.3% p = .017	46.2% p = 1.00	0.0% p = 1.00	7.7% p = 1.00	15.4% p = 1.00
VACBF (47.6%) $X^2_{(5)}$ = 206.1, $p \leq .001$	93.9% $p \leq .001$	43.9% p = 1.00	6.1% $p \leq .001$	3.7% $p \leq .001$	10.9% $p \leq .001$
VATOGA (50.0%) $X^2_{(5)}$ 12.27, p = .031	83.0% p = 1.00 [a]	33.3% p = 1.00 [a]	0.0% p = 1.00 [a]	0.0% p = 1.00 [a]	33.3% p = 1.00 [a]

Note. Adjusted p values are presented. ALLL = Alabama Little Lagoon. ALMB = Alabama Mobile Bay. FLAC = Florida Atlantic Coast. FLGOM = Florida Gulf of Mexico. MDCBF = Maryland Chesapeake Bay Foundation. MDCHOP = Maryland Choptank River. MS = Mississippi. NH = New Hampshire. TX = Texas. VACBF = Virginia Chesapeake Bay Foundation. VATOGA = Virginia Tidewater Oyster Gardening Association.

[a] Significance lost with Bonferroni correction.

We asked respondents to identify their motivations for engaging in an activity in general at the gardening site prior to their OGP participation. We compared these observed responses to the equal distribution expected from chance and found significance indicating a preference among motivations at both the regional and

program levels (Table 4). This circumstance suggests that a hierarchy of motivations existed prior to engaging in an OGP that was similar to those motivations that led a respondent to join an OGP. As the data shown in Table 4 indicate, the region-level findings were reflected in the program-level findings. Specifically, we found statistically significant deviations of observed selections, compared to expected, for all motivational categories for the Florida Atlantic Coast, Virginia Chesapeake Bay Foundation, and Alabama Mobile Bay programs, with six of the eight remaining programs showing significance in at least one motivational category. Only Mississippi and Florida Gulf of Mexico showed no statistically significant deviation for any motivational categories considered, likely a function of sample size. These results indicate that the program-level motivations for engaging in an activity in general at the gardening site prior to OGP participation are similar to those for joining an OGP, as expected.

Table 4.

Observed Selection of Motivations for Engaging in Activity in General at Oyster Gardening Site (Before Joining Oyster Gardening Program) Compared to Expected Selection for Each Motivational Category

	Environmental improvement		Recreational time for self		Recreational time with family		Recreational time with friends/neighbors		Business opportunities		Other	
Affiliation	Selection %	*p*	Selection %	*p*	Selection %	*p*	Selection %	*p*	Selection %	*p*	Selection %	*p*
Region												
Gulf of Mexico	74.7	≤.001	18.7	≤.001	28.0	.001	17.3	≤.001	2.7	≤.001	16.0	≤.001
Atlantic	78.1	≤.001	28.1	≤.001	21.9	≤.001	14.1	≤.001	1.6	≤.001	7.3	≤.001
Chesapeake Bay	84.7	≤.001	2.4	≤.001	29.0	≤.001	20.2	≤.001	1.6	≤.001	6.3	≤.001
Program												
TX [a]	66.7	.392	16.7	.037	33.3	.392	33.3	.392	0.0		8.3	.006
MS [a]	80.0	.379	20.0	.379	20.0	.379	20.0	.379	0.0		40.0	1.00
ALLL	53.3	.796	20.0	.020	26.7	.071	6.7	.001	6.4	.001	26.7	.071
ALMB	84.6	≤.001	20.5	≤.001	28.2	.006	18.0	≤.001	2.6	≤.001	10.3	≤.001
FLGOM [a]	75.0	.630	0.0		25.0	.630	0.0		0.0		25.0	.630
FLAC	77.1	≤.001	22.9	.013	20.8	≤.001	12.5	≤.001	2.1	≤.001	6.3	≤.001
VACBF	82.9	≤.001	30.5	≤.001	31.7	.001	21.9	≤.001	1.2	≤.001	4.8	≤.001
VATOGA	91.7	.004	25.0	.083	25.0	.083	8.3	.004	8.3	.004	16.7	.021
MDCBF	81.0	.005	14.3	.001	23.8	.016	23.8	.016	0.0		14.3	.001
MDCHOP [a]	100.0	—	33.3	.513	22.2	.175	11.1	.038	0.0		0.0	
NH	81.3	.012	43.8	.617	25.0	.046	18.8	.012	0.0		6.3	≤.001

Note. We used a Monte Carlo procedure to estimate and report exact *p* values. TX = Texas. MS = Mississippi. ALLL = Alabama Little Lagoon. ALMB = Alabama Mobile Bay. FLGOM = Florida Gulf of Mexico. FLAC = Florida Atlantic Coast. VACBF = Virginia Chesapeake Bay Foundation. VATOGA = Virginia Tidewater Oyster Gardening Association. MDCBF = Maryland Chesapeake Bay Foundation. MDCHOP = Maryland Choptank River. NH = New Hampshire.

[a] All expected cell frequencies were not greater than 5.

We then compared selections among motivations and found that within regional levels respondents selected environmental improvement significantly more frequently compared to other categories of motivation ($p \leq .001$, respectively) prior to participating in an OGP (Table 5). This circumstance suggests that OGP participation at the regional level aligns with motivations to engage in any activity at the gardening site prior to joining an OGP.

Table 5.

Selection Rate of Environmental Improvement Motivation for Engaging in Activity in General at Oyster Gardening Site (Before Oyster Gardening Program Participation) Compared to Five Alternative Motivations

Region	Selection %	Cochran's Q	Recreational time for self	Recreational time with family	Recreational time with friends/neighbors	Business opportunities	Other
Gulf of Mexico	74.7	$\chi^2_{(5)} = 115.391$, $p \leq .001$	≤.001	≤.001	≤.001	≤.001	≤.001
Chesapeake Bay	84.7	$\chi^2_{(5)} = 248.476$, $p \leq .001$	≤.001	≤.001	≤.001	≤.001	≤.001
Atlantic	78.1	$\chi^2_{(5)} = 121.071$, $p \leq .001$	≤.001	≤.001	≤.001	≤.001	≤.001

With regard to comparisons of selection rates among motivations at the program level (data not shown in tabular form), we found that environmental improvement was the strongest motivator ($p \leq .001$) for the Alabama Mobile Bay, Florida Atlantic Coast, Maryland Chesapeake Bay Foundation, Maryland Choptank River, New Hampshire, Virginia Chesapeake Bay Foundation, and Virginia Tidewater Oyster Gardening Association programs. We found no significance in Texas when comparing environmental improvement to the social motivations of recreational time with family ($p = .471$) and recreational time with friends/neighbors ($p = .147$). Further, participants in the newer programs did not show a preference for one motivation over another: Alabama Little Lagoon ($p = .051$), Florida Gulf of Mexico ($p = .113$), and Mississippi ($p = .102$). Only Virginia Chesapeake Bay Foundation program participants selected the social motivations of recreational time for self (selection rate = 30.5%) and recreational time with family (selection rate = 31.7%) at higher rates when compared to business opportunities (selection rate = 1.2%; $p = .01$ and $p \leq .001$, respectively) and the category "other" (selection rate = 4.9%; $p = .008$ and $p = .004$, respectively).

Along with asking respondents to identify their motivations for engaging in an activity in general at the gardening site prior to OGP participation, we asked them to identify their motivations for doing so following their OGP participation (data not shown in tabular form). The observed selection of motivations significantly

deviated in each category from the expected within all regional levels ($p \leq .005$, respectively). Within each specific program level, only the Mississippi and Florida Gulf of Mexico programs continued to show no significant deviation ($p \geq .375$) from the expected distribution for any of the six motivations considered. These findings were consistent with our findings regarding motivations for engaging in activity in general at the site prior to joining an OGP, suggesting that program participation did not influence the hierarchy of motivations.

Also with regard to motivations for engaging in an activity in general at the gardening site after OGP participation, we compared selection preferences among motivations within each region and program level. Our analysis indicated that participation in an OGP generally did not influence the motivation to engage in an activity at the gardening site. We found significant differences among motivations within each region, indicating that a motivational hierarchy remained. Post hoc pairwise comparisons showed that respondents in each region continued to select environmental improvement at a higher rate than the remaining five motivations (Table 6). Within specific programs, we found that after OGP participation significant differences continued for the majority of motivations when comparing environmental improvement and the remaining motivations (Table 6). Comparable to the "prior to OGP participation" results, we found, generally, that respondents selected social motivations at higher rates than business opportunities in each region (Figure 1). At the program level, we found social motivations to be similarly strong for some programs. Volunteers in all programs may not respond to social benefit foci; thus, Extension professionals should evaluate the value of social motivations to their volunteer retention. Additionally, only the Alabama Little Lagoon program demonstrated a significant difference when environmental improvement was compared to other motivations both before OGP participation ($p = .051$) and after participation ($p = .010$). Post hoc comparisons showed that environmental improvement was selected significantly more following OGP participation as compared with recreational time with friends/neighbors and business opportunities. The Florida Gulf of Mexico and Mississippi programs continued to show no significance among any motivation category, again likely a function of small sample sizes ($n = 5$ and 5, respectively; $p \geq .113$, respectively).

Table 6.

Selection Rate of Environmental Improvement Motivation for Engaging in Activity in General at Oyster Gardening Site (After Oyster Gardening Program Participation) Compared to Five Alternative Motivations

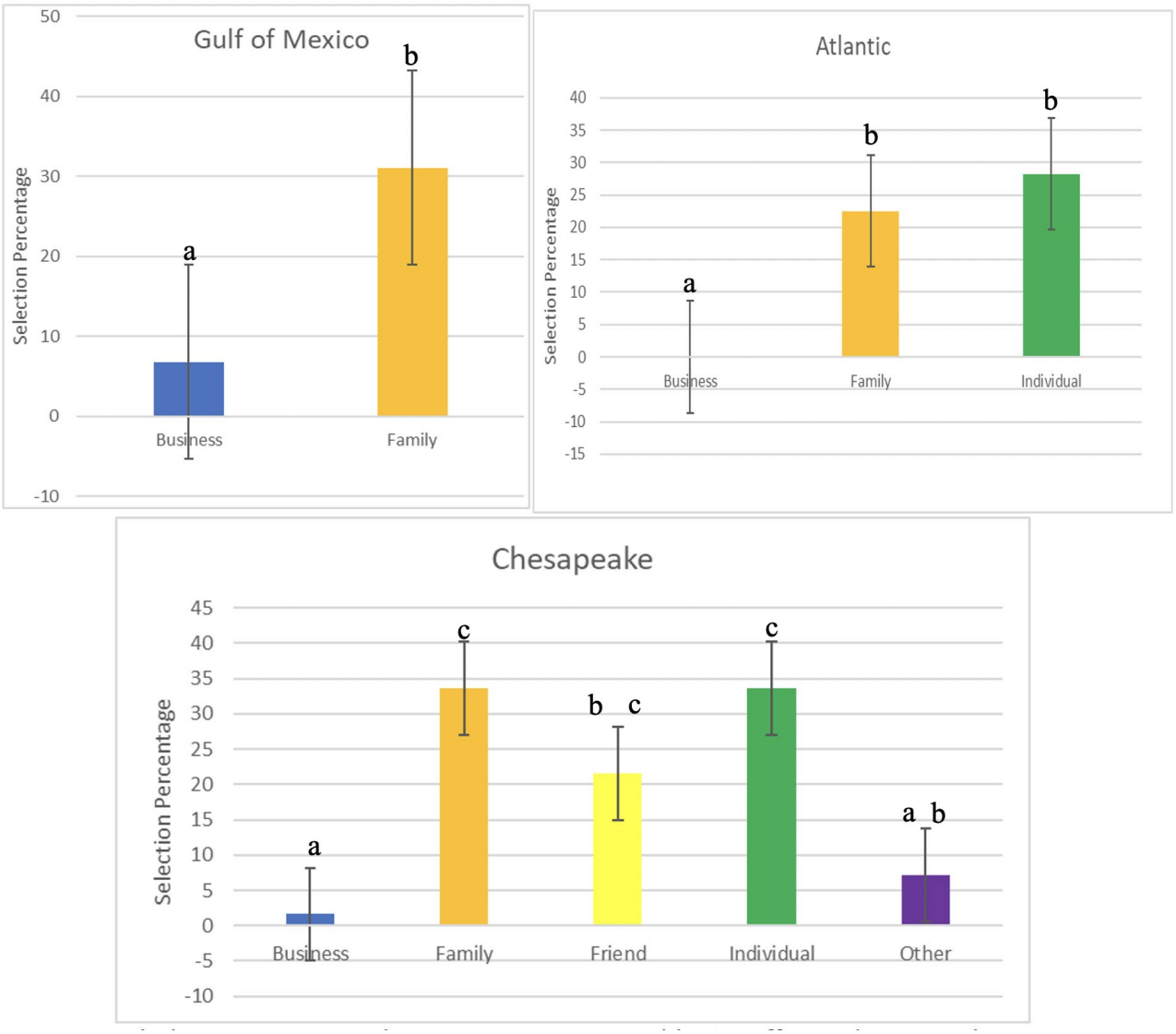
Affiliation	Selection %	Cochran's Q	Recreational time for self	Recreational time with family	Recreational time with friends/neighbors	Business opportunities	Other
Region							
Gulf of Mexico	77.0	$X^2_{(5)} = 120.357$, $p \leq .001$	≤.001	≤.001	≤.001	≤.001	≤.001
Chesapeake Bay	94.0	$X^2_{(5)} = 300.736$, $p \leq .001$	≤.001	≤.001	≤.001	≤.001	≤.001
Atlantic	89.0	$X^2_{(5)} = 142.050$, $p \leq .001$	≤.001	≤.001	≤.001	≤.001	≤.001
Program							
	83.0	^{2} = 25.741, ≤	.002	.471	.147	≤.001	.002

TX		$X_{(5)}$ p .001					
ALLL	53.0	$X^2_{(5)} = 15.130$, $p = .010$	.121	.410	.006	.030	.410
ALMB	84.0	$X^2_{(5)} = 73.213$, $p \leq .001$	≤.001	≤.001	≤.001	≤.001	≤.001
FLAC	87.0	$X^2_{(5)} = 109.23$, $p \leq .001$	≤.001	≤.001	≤.001	≤.001	≤.001
FLGOM	75.0	$X^2_{(5)} = 8.913$, $p = .113$					
MDCBF	91.0	$X^2_{(5)} = 51.621$, $p \leq .001$	≤.001	≤.001	≤.001	≤.001	≤.001
MDCHOP	100.0	$X^2_{(5)} = 30.714$, $p \leq .001$	.029	.001	.029	≤.001	≤.001
MS	80.0	$X^2_{(5)} = 8.750$, $p = .119$					
NH	93.0	$X^2_{(5)} = 33.318$, $p \leq .001$	.011	.011	.001	≤.001	≤.001
VACBF	94.0	$X^2_{(5)} = 203.134$, $p \leq .001$	≤.001	≤.001	≤.001	≤.001	≤.001
VATOGA	92.0	$X^2_{(5)} = 28.250$, $p \leq .001$	.141	.001	≤.001	≤.001	.001

Note. TX = Texas. ALLL = Alabama Little Lagoon. ALMB = Alabama Mobile Bay. FLAC = Florida Atlantic Coast. FLGOM = Florida Gulf of Mexico. MDCBF = Maryland Chesapeake Bay Foundation. MDCHOP = Maryland Choptank River. MS = Mississippi. NH = New Hampshire. VACBF = Virginia Chesapeake Bay Foundation. VATOGA = Virginia Tidewater Oyster Gardening Association.

Figure 1.

Selection Rate (Standard Error of Mean Indicated) of Motivations (Within Regional Level) for Engaging in Activity in General at Oyster Gardening Site (After Oyster Gardening Program Participation)



Note. Excludes environmental improvement; see Table 6. Different letters indicate significance ($p < .05$).

Across Regions and Programs

For both region and program, we assessed associations with selection of a motivation for joining an OGP as well as for engaging in an activity at the gardening site prior to and following participation in an OGP. We applied a Bonferroni correction for multiple comparisons to generate adjusted significant *p* values of .0167 for the regional level and .00091 for the program level.

With regard to motivations for joining an OGP, the proportion of participants in the Gulf of Mexico region selecting environmental improvement was significantly less (78.5%) than the proportions of participants in the Chesapeake Bay region (92.9%; $X^2_{(1)} = 9.062$, $p = .003$; Cramer's $V = .21$) and Atlantic region (94.2%; $X^2_{(1)} = 7.48$, $p = .006$; Cramer's $V = .25$). We found no statistical significance between the Atlantic and Chesapeake Bay regions ($X^2_{(1)} = 0.103$, $p = .719$; Cramer's $V = .03$). As well, we found no significance for the remaining categories ($p \leq .047$). Among the specific program levels, we found no statistically significant associations with selection of motivation for joining an OGP (Table 7).

When considering the motivations for engaging in an activity at the gardening site prior to participating in an OGP, we found no statistically significant associations with regard to region ($p \geq .052$) or specific program (Table 7).

Finally, when considering the motivations for engaging in an activity at the gardening site following OGP participation, we found that environmental improvement continued to be selected by a statistically significantly lower proportion of Gulf of Mexico respondents (77.0%) than Chesapeake Bay respondents (93.6%; $X^2_{(1)} = 11.623$, $p = .001$; Cramer's $V = .24$). These findings suggest that OGP participants in the Chesapeake Bay region find environmental improvement to be a greater motivator for decision making than those in the Gulf of Mexico region do. Participants in the Alabama Little Lagoon program (53.0%) and its regional peer programs, who selected this motivation at a rate of ≤84.0%, drove the Gulf of Mexico region's lower selection rate. In absolute terms, the selection rate for this motivation in the Gulf of Mexico programs was lower than in any program in the Atlantic region (≥87.0%) or Chesapeake Bay region (≥91.0%). We found no statistical significance between the Atlantic region (88.7%) and the Gulf of Mexico region ($p = .075$; Cramer's $V = .15$) or Chesapeake Bay region ($p = .246$; Cramer's $V = .09$). Further, we found no statistical significance among the regional levels ($p \geq .037$) or the specific program levels (Table 7) for the remaining motivations considered.

Table 7.

Motivations for Joining Oyster Gardening Program (OGP) and for Engaging in Activity in General at Oyster Gardening Site Before and After OGP Participation

Timing	Motivation category	Level (selection rate)		*p* [a]	Cramer's V
Joining OGP	Environment	FLAC (96.2%)	MS (60.0%)	.035	.40
			ALMB (54.5.0%)	.022	.25
			FLGOM (50.0%)	.022	.46
			ALLL (40.0%)	.002	.33
		VACBF (93.9%)	MS (60.0%)	.050	.29
			ALMB (54.5.0%)	.033	.20
			FLGOM (50.0%)	.032	.34
			ALLL (40.0%)	.03	.26
Engaging in site activity in general before OGP participation	Environment	ALLL (53.3%)	ALMB (84.6%)	.03	.33
			VACBF (82.9%)	.018	.22
			VATOGA (91.7%)	.043	.42
			MDCHOP (100.0%)	.022	.50
	Other	VACBF (4.9%)	MS (40.0%)	.036	.32
			ALLL (26.7%)	.018	.29
		FLAC (6.3%)	ALLL (26.7%)	.049	.28
Engaging in site activity in general after OGP participation	Environment	ALLL (53.0%)	ALMB (84.0%)	.032	.32
			FLAC (87.0%)	.010	.36
			VACBF (94.0%)	≤.001	.45
			VATOGA (92.0%)	.043	.42

		MDCBF (91.0%)	.017	.43
		MDCHOP (100.0%)	.022	.50
		NH (93.0%)	.035	.45
Recreational time family	MS (20.0%)	VACBF (39.0%)	.046	.09
Recreational time friends/neighbors	ALLL (0.0%)	TX (33.0%)	.028	.47
		MDCHOP (11.0%)	.042	.49
Business opportunities	ALMB (11.0%)	FLAC (0.0%)	.036	.25
		VACBF (5.0%)	.034	.32

Note. Monte Carlo procedure. Exact *p* values reported. ALLL = Alabama Little Lagoon. ALMB = Alabama Mobile Bay. FLAC = Florida Atlantic Coast. FLGOM = Florida Gulf of Mexico. MDCBF = Maryland Chesapeake Bay Foundation. MDCHOP = Maryland Choptank River. MS = Mississippi. NH = New Hampshire. TX = Texas. VACBF = Virginia Chesapeake Bay Foundation. VATOGA = Virginia Tidewater Oyster Gardening Association.

[a] Significances were lost following application of a Bonferroni correction (adjusted significance level $p = .00091$).

Although we found a limited regional effect, we found no program-level effect on motivations. A likely contributor to this was the strength of the correction factor used for multiple comparisons. Those implementing Extension programs, including OGPs, may find significances with a more regional focus; however, they should not ignore findings from similar programs beyond their particular geographic regions.

Before/After Oyster Gardening Participation: Change in Motivation Selection

We found no statistically significant changes in selections of motivations from before to after OGP participation for the Gulf of Mexico region ($p \geq .25$) or Atlantic region ($p \geq .07$). The Chesapeake Bay region showed statistically significant differences in preprogram and postprogram selection of environmental improvement ($X^2_{(1)} = 7.562$, $p = .004$). This change was the result of an increase in the respondent proportion selecting environmental improvement following OGP participation (.944) compared to before OGP participation (.847). The Virginia Chesapeake Bay Foundation program drove this change as the only program to show statistically significant differences between selection proportions of environmental improvement before and after OGP participation ($X^2_{(1)} = 5.818$, $p = .012$). This change was the result of an increase in the proportion of respondents selecting environmental improvement following OGP participation (.944) as compared to before OGP participation (.829). All other program level comparisons were not significant ($p \geq .07$). These results suggest that participation in an OGP does not generally influence motivations to engage in an activity at the gardening site; rather those motivations likely already exist and may drive an individual to engage in an activity such as oyster gardening.

Broader Extension Implications

Volunteer patterns follow a path of growth, cresting, decline, and stabilization (Bowling, 2001; Deutsch & Ruiz-Córdova, 2015). We focused on motivators for OGP participants, but the larger implication is the need to actively identify motivational needs of volunteers for program enhancement. Master naturalist/gardener, stream restoration, landowner water best management practices, and 4-H are examples of Extension program

areas that benefit from a stabilized volunteer base and the resulting strong reporting metrics expected (Cleveland & Thompson, 2007; Stup, 2003). We demonstrated that Extension professionals can capture specific insights using survey and analysis resources likely already on hand, thereby negating the limitations of declining resources and increased demand for services (Aguilar & Thornsbury, 2005; Smith & Oliver, 1991). Programs should evolve with their volunteers to remain in or return to the volunteer growth zone. Clary et al. (1998) established broad categories of individual motivation for engaging in a volunteer opportunity. We also considered broad categories of motivation, an approach that provides valuable insight regarding motivations within and across regions and programs. The similarities we found support the value of interregion/interprogram exchanges of methods through which motivators may be addressed. Extension professionals who find comparably unique motivators within broad categories, lack peer programs, or want to further refine their foci on the basis of motivating categories can do so by focusing future work on elements of individual categories.

Conclusions

Themes of general interest may be sufficient motivation for an individual to engage in and continue with a volunteer opportunity. This circumstance suggests that those leading volunteer-based Extension programming may benefit from identifying the themes that motivate an individual to initially engage in an activity. Program leaders may improve their recruiting and retention efforts by demonstrating clear links between volunteer participation and identified volunteer motivations.

Our analysis of a volunteer-dependent Extension program highlights the opportunity to identify specific motivations individuals are influenced by when deciding to join and remain engaged in programming. A hierarchy of motivations to join an OGP was generally consistent within each region and specific program level. Specifically, environmental improvement was a consistently stronger motivation than the opportunity to learn new things or fishing improvement at the gardening site, both of which were generally stronger than social motivations. Additionally, OGP participation generally did not play a significant role in shaping motivations for engaging in an activity in general at the gardening site; rather, these motivations (e.g., environmental improvement) already existed before OGP participation and remained strong afterward. Those delivering OGPs likely would benefit from focusing recruitment strategies on the environmental benefits intrinsic to the program and supplement those strategies with others focused on the opportunity to learn and potentially improve fishing at the gardening site.

Some differences existed among the programs we studied, but general trends illustrate the value of interprogram exchange, independent of geographic region. Further, different types of programming (e.g., forest focused and nutrition focused), while having obvious variability in foci, may overlap with regard to motivations of volunteers (e.g., health improvement, learning opportunity). These overlaps generate the opportunity for mutually beneficial exchange between otherwise very different volunteer-based programs related to methods for meeting the motivational needs of the respective volunteers. Participation in a volunteer program may not change the motivations of the volunteer, but rather satisfy an existing need. This value derived by the volunteer may help foster continued interest, improving the volunteer retention rate for a program.

We considered broad categories of motivation for joining an OGP. Future work may include investigation of elements of individual categories (e.g., environmental motivations). Such investigation may be particularly

valuable with regard to program-specific interest.

Author Note

Correspondence concerning this article should be addressed to Phillip L. Waters Jr. Email: waterph@auburn.edu

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