Statistics Needs and Assets Assessment

December 2021 Survey Results

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Background

- *Timeframe:* Open December 1 - December 15, 2021

- *Purpose:* To assess the current statistics needs and assets for UCCE academics and program staff, to inform the enhancement of UC ANR statistical support through the allocation of newly available programmatic support funds.

- *Questions:*
  - Two Likert scale questions assessed importance and satisfaction for types of support and statistical programs
  - Three open ended questions assessed existing resources, barriers, and asked for open-ended feedback
  - Additional questions collected participant demographics

Survey successfully delivered to 586 with 267 participating = 46% response rate

Respondent Personnel Characteristics

Position Type	# Respondents	% of Respondents	% of Total Position Type
Academic Administrator	1	0%	25%
Academic Coordinator	15	6%	60%
CE Advisor	96	36%	64%
CE Specialist	57	21%	49%
Community Education Specialist	76	28%	32%
Project Scientist	3	1%	60%
Research Specialist	4	1%	67%
Staff Research Associate	15	6%	33%
Grand Total	267	100%	

Respondent Personnel Characteristics

Years with UC ANR	Number	Percentage
0 to 2	60	22%
3 to 6	37	14%
7 to 5	71	27%
16+	96	36%
N/A	3	1%
Grand Total	267	100%

Primary SI Area	Number	Percentage
EIPD	52	19%
HFC	84	31%
SFS	67	25%
SNE	31	12%
WQQS	23	9%
N/A	10	4%
Grand Total	267	100%

Survey Results: Technical Assistance

IPA - Technical Assistance
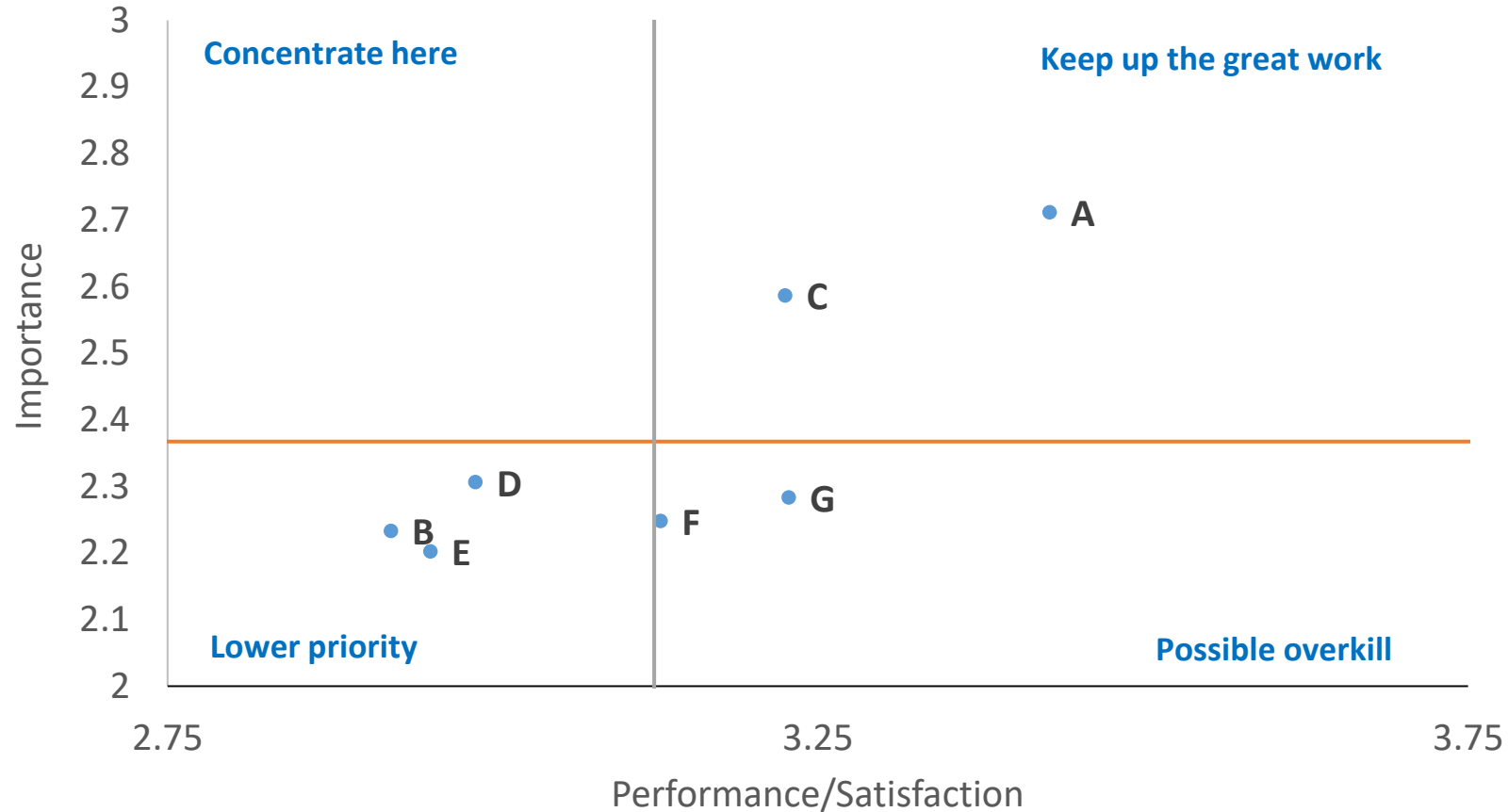
Label	Technical Assistance
A	Partner with ANR network statistics experts
B	Ability to hire consultant services
C	Access to statistics courses/training
D	UC campus-Extension online statistical courses
E	One-time funding for statistics courses/professional development
F	UCCE-specific applied statistics training
G	Research/experimental design training

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Survey Results: Statistical Programs

IPA - Programs
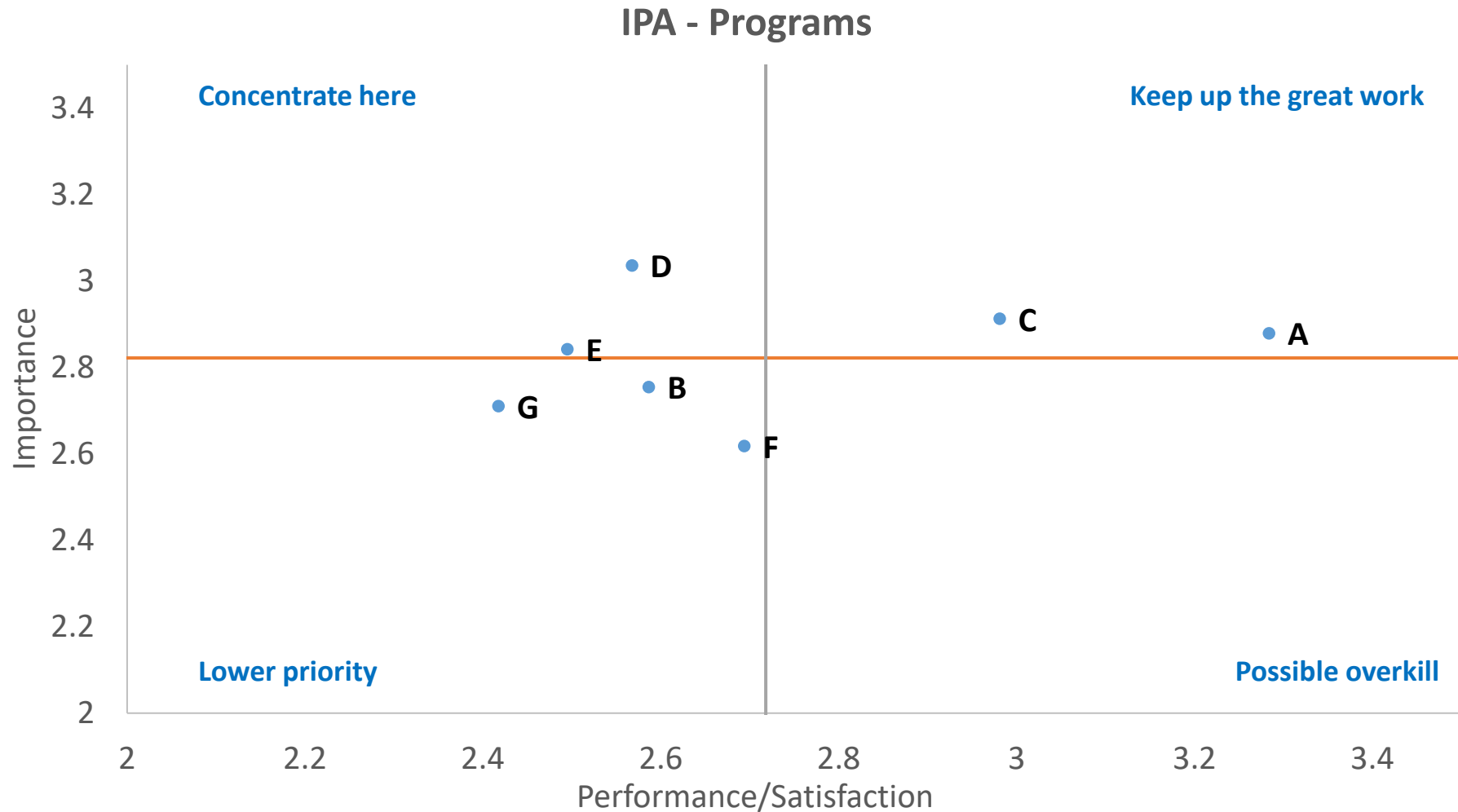
Label	Program
A	R
B	SPSS
C	SAS
D	JMP
E	STATA
F	SigmaPlot
G	STATGRAPHICS

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SUMMARY: "Please list statistics and experimental design resources you have used that you found helpful and briefly describe how you used them."

#	Popular Responses & Themes
Existing Programs & Training Resources	
105	Participants discussed specific programs and using their accompanying training resources. SAS was most common (23), followed by R (18), JMP (11) and SPSS (11). Excel was most mentioned after that. Other programs were mentioned at lower frequencies; however, 14 discussed other programs such as Python, Systat, and Prism.
Collaboration – UC & UC ANR	
44	Collaborating with other colleagues and faculty within UC ANR was a popular strategy (18). Sixteen mentioned leveraging UC resources (not UC ANR necessarily) such as UCR and UCD Statistics Departments or consultancy groups. "D Lab" at UC Berkeley was mentioned a few times. Only a few collaborated with students or postdocs, and ~10 stated a preference to work with other experts rather than analyzing on their own. Only several mention hiring an SRA, Research Data Analyst, and the Stats lab. IGIS help desk was mentioned once as being used fairly frequently to answer GIS and R questions.
Textbooks & Online Resources	
31	Many do online research when they have questions and use tutorials or online libraries. UCLA's SAS resources were mentioned numerous times, as well as their statistical methods website. The textbooks listed were all different – most obtained during graduate level coursework. A list of these books can be provided to PC if desired.
Prior Training	
23	Some respondents have had formal training that has met their statistics needs. Eleven mentioned coursework in graduate schools. Another 9 mentioned undergraduate coursework OR taking a course years later at UC Berkeley or UC Davis. A few more have gone to various seminars or trainings at conferences. Only 5 mentioned UC ANR professional development.

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SUMMARY: Have you experienced any barriers conducting statistical analysis you have needed for your research and extension work?

#	Popular Responses & Themes: CE ADVISORS
Training and Resources	
17	Many CE Advisors discussed a general interested in opportunities to gain training in new modalities or on specific programs like R that were not taught when they were completing graduate school. A few pointed out that there are rarely offerings on qualitative data and social science research and that this type of resource would be incredibly helpful.
Knowledge Gaps	
16	While some CE Advisors expressed familiarity with basic statistics and experimental design in their field, they had concerns for working with complicated or messy datasets. Issues related to analyzing social science data came up here as well; some said that they could do quantitative analysis but needed to outsource otherwise. Some wanted to work with statistical packages like R or JMP but weren't entirely confident and needing to constantly look things up or check with an expert.
Unanswered Need for Help	
12	Responses related to this theme ran the gamut; some felt like they didn't know who they could ask or couldn't locate an expert for a particular need that they have. One respondent noted that their county-based project could not get support from experts. Others expressed concerns for timeliness of being able to secure support and delivering on their project by a deadline. A full list of these comments can be provided to PC if helpful.
IT Issue – Accessing Programs	
6	IT issues renewing the annual licensing of Statgraphics, SAS, and STATA were mentioned. Having to start the Vendor Risk Assessment process from scratch for each person is not efficient; suggestion to have a list of statistical programs that are acceptable (perhaps with training on data security if needed).

SUMMARY: Have you experienced any barriers conducting statistical analysis you have needed for your research and extension work?

#	Popular Responses & Themes: CE Specialists
Training and Resources	
8	A few respondents noted that they need refreshers and haven't taken coursework since graduate school; others were interested in learning about more complex strategies for analysis. Some had investigated courses available through UC (e.g. UC Riverside) but felt that they weren't tailored to their needs for UCCE.
Knowledge Gaps	
6	Comments focused on a general need for more knowledge or lack of experience. One voiced that they would love to learn more about determining the correct types of statistical parameters.
General Preference to Outsource	
6	Due to abovementioned knowledge and training gaps, these respondents had a preference to collaborate or outsource. Some mentioned working with PhD students or other faculty. Some have hired on consultants – though one person expressed that the compensation they can offer is not viable for the types of candidates they are looking for.

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SUMMARY: Have you experienced any barriers conducting statistical analysis you have needed for your research and extension work?

#	Popular Responses & Themes – Academic Admin./Coordinators, Other Academics & Community Educator Specialists
Training and Resources	
10	Most discussed a general interest in additional training, including on more complex statistical analysis. Two mentioned feeling "alone" in figuring stuff out and typically running their own process of trial and error. A few others mentioned that programs they were trained on are different than what their colleagues use at ANR, and thus it would be helpful to have training on the most widely-used programs.
Unanswered Need for Help	
6	Some expressed not knowing who they can ask for help and a general desire to cross-check their work with an expert. Others stated specific needs where they couldn't find an expert, including strategies like time series analysis, validity and reliability, or using different survey instruments. One mentioned specific programs related to plant physiology (WinBUGS, OpenBUGS).
Lack of Time	
6	These respondents felt they did not have the time needed to do the deeper information dives on statistics that they wanted to; one expressed they feel like they are relearning them every time they try to use stats programs and that feels inefficient. One respondent suggested offering a class at a specific day/time interval that could be anticipated.

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SUMMARY: "Do you have any additional comments?"

#	Popular Responses & Themes
Training and Resources	
29	Participants mostly discussed a desire or openness to new trainings offered by UC ANR, or in partnership with the UC campuses. There was a mix of requests for training on types of methods or programs. A few qualitative researchers also expressed concerns that most of the programs and methodologies were geared toward quantitative research.
Expert Consultation	
19	There were several response indicating that UC ANR could set up a unit like IGIS that is able to provide statistics consultation or review, and that that would add a lot of confidence to respondents' work. Others suggested that just having an additional FTE or two whose sole purpose was to do statistics consultation would be valuable. Some alternatively said that more linkages between staff could be helpful.
Increase Awareness	
5	A handful of respondents expressed that they felt unaware of what was currently being offered by UC ANR or what they should be searching for outside of our organization for statistics support.
Organization-wide licensure	
4	A few staff said it would be helpful to have organization-wide licenses for the most used statistical packages. R and Python were called out; some mentioned not knowing what options were available.