National Environmental Health Science & Protection Accreditation Council

Enhancing the education and training of students in environmental health science and protection

Graduate Outcome Assessment

2023-2024

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Chapter 1. Introduction

This report details analysis of the data provided by former graduates of EHAC accredited Master's programs seeking reaccreditation during the 2023-2024 academic year and a number of their supervisors.

Background

Employer related surveys of Alumni of EHAC accredited degree programs are required by EHAC Policy **4.8 Alumni Outcome Assessment Survey Policy**:

- EHAC requires each academic degree program up for reaccreditation to collect alumni and their employer's feedback through the EHAC Outcome Assessment Survey tool.

1. This tool is to be used by EHAC to assess the criteria by which accreditation is assessed. The college or university may elect to use the information for academic degree program assessment as well.
2. The academic degree program is responsible for administering the survey to its graduates and their employers.

The outcome assessment tool consists of two surveys conducted via surveymonkey.com, one for current employees and the other for their supervisors. It is distributed to the reaccreditation candidate Program Directors for distribution to former students. The graduates then provide the survey link to their supervisors for survey completion.

Chapter 1. Introduction

Survey Context and Summary

EHAC's core mission is to accredit Environmental Health (EH) Programs that provide a scientifically rigorous and practical based education, which prepares graduates to enter the EH field "work force ready" and prepared to problem solve using critical thinking skills acquired during their university education. Toward this end, EHAC is continuously identifying strengths and weaknesses related to graduates successfully entering and progressing in the EH field of their choice. Survey responses from both graduates employed in the EH field (employees), and their supervisors assist EHAC in assessing and adapting Undergraduate Requirements and Graduate Guidelines for accreditation to the ever-evolving arena of Environmental Health.

Questions for both employees and their supervisors focus on assessing the adequacy and effectiveness of an employee's knowledge, skills, and abilities related to their EH job, with employees conducting self-assessments and supervisors evaluating their current employees.

The following report provides a graphic representation of the results of the surveys. Table 1 presents the EHAC accredited Graduate degree programs going through the 2023-2024 reaccreditation process, the number of employee responses, their dates of graduation, and the number of supervisor responses. There were 9 total employee respondents to the survey. All of these respondents are currently employed in EH-related professions. Three supervisors of Graduate EH employees participated in the survey and their responses are included in this report, as well.

Chapter 1. Introduction

Survey Context and Summary

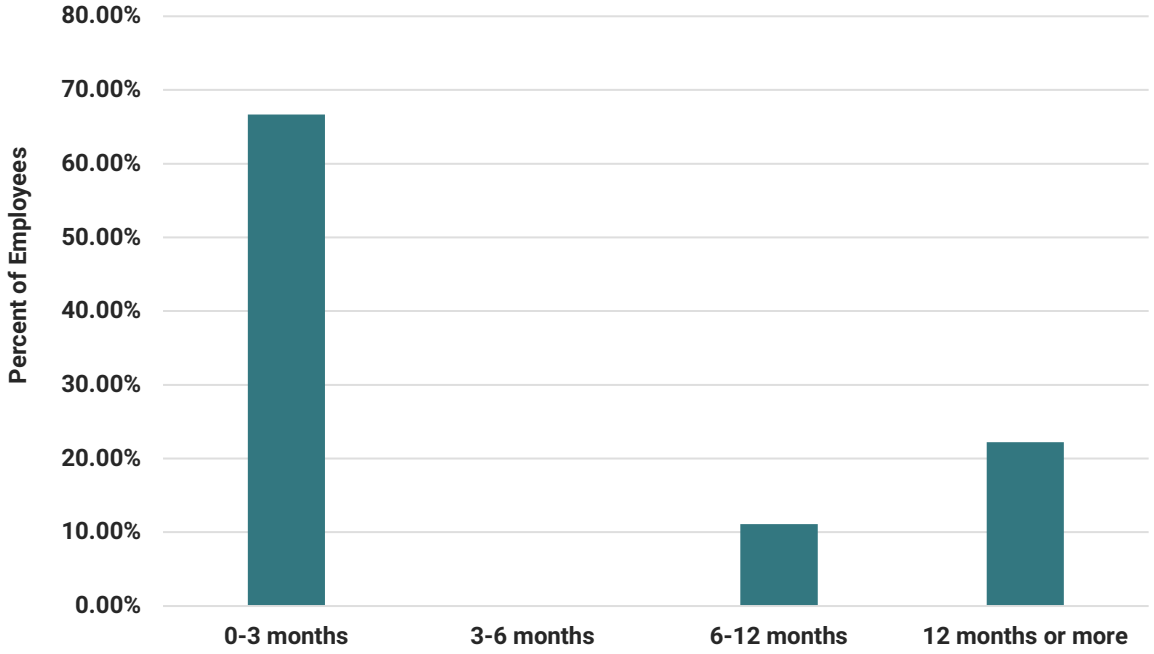
Table 1: 2023-2024 Outcome Assessment Respondents Graduate Programs

Re-accreditation Applicants	Next Accreditation Review	Initial Accreditation Year	Graduating Classes Reflected	Number of EH Employee Respondents	Number of Supervisor Respondents
East Carolina University	2024	1981		4	2
Eastern Kentucky University	2024	2012		2	1
Mississippi Valley State University	2024	2005		1	
University of Findlay	2024	2005		2	
Totals				**9**	**3**

Chapter 2. Graduate Employee Results

EH Employee Workplace Data

Chart 1: Length of Time to First EH Employment Post Graduation (N=9)



Chapter 2. Graduate Employee Results

EH Employee Workplace Data

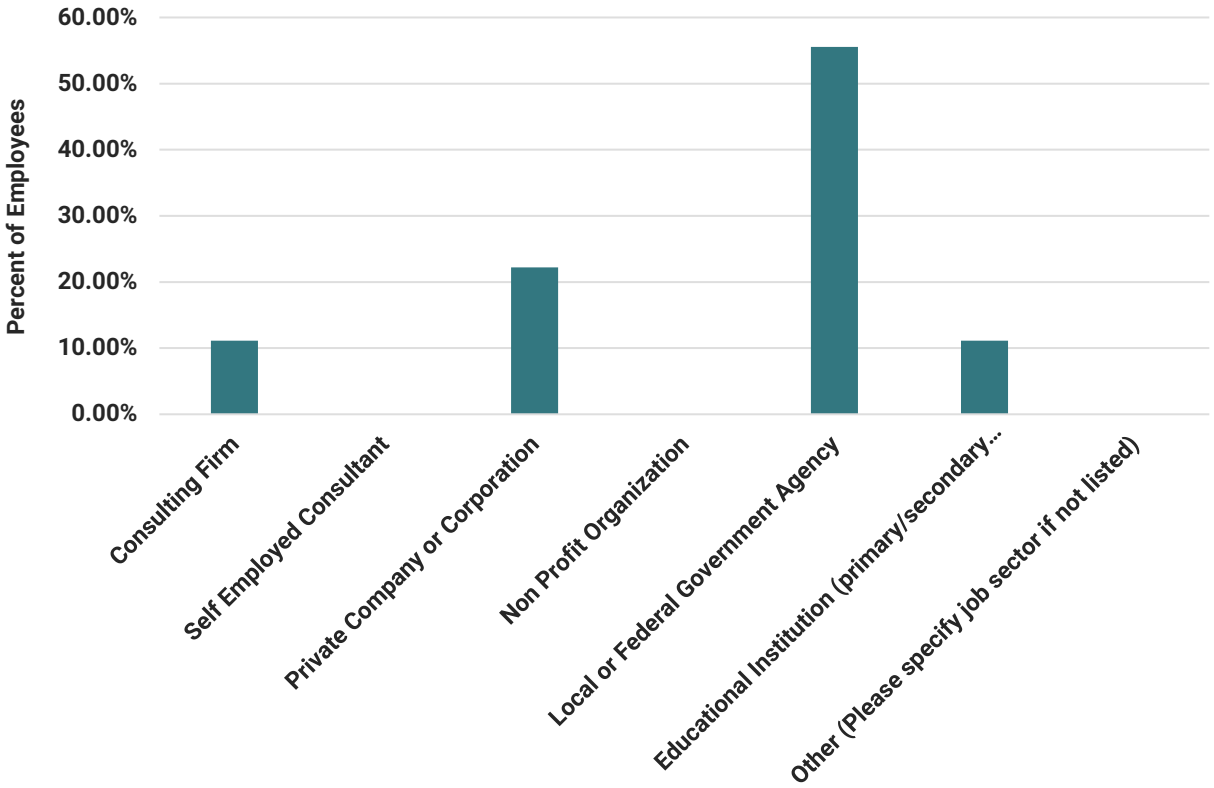
Table 2: Job Titles of Employee Respondents

Job Title	Total
Environmental Compliance Consultant	1
Environmental Consultant	1
Environmental Health Officer US NAVY	1
Environmental Specialist	1
HSE Coordinator II	1
Public Health Sanitarian	1
Safety Specialist	1
Safety Technician	1
Senior Regulatory Officer	1

Chapter 2. Graduate Employee Results

EH Employee Workplace Data

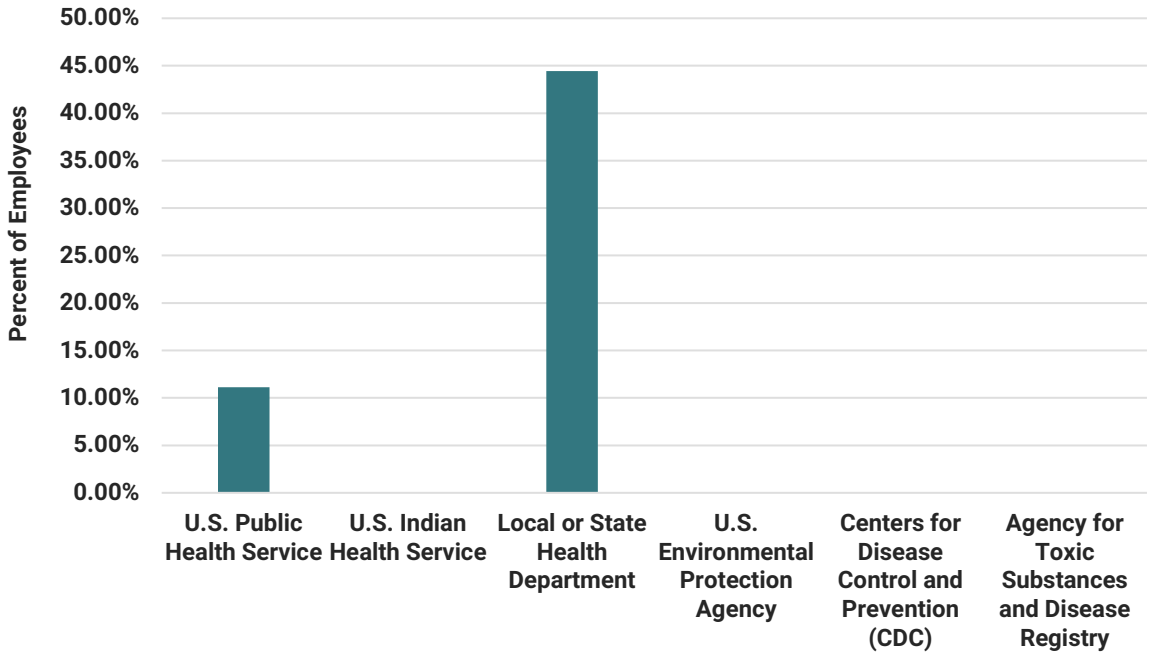
Chart 2: Job Sector Distribution of Employees (N=9)



Chapter 2. Graduate Employee Results

EH Employee Workplace Data

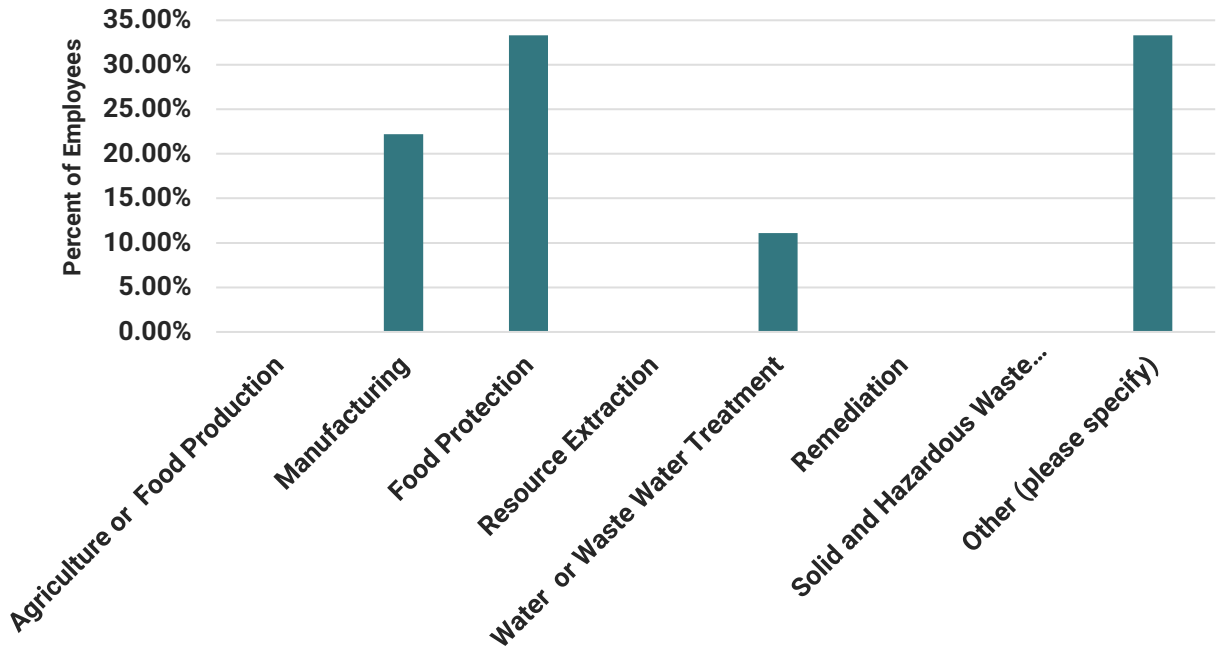
Chart 3: Distribution of Employees Working at Local, State, or Federal Government Agencies (N=9)



Chapter 2. Graduate Employee Results

EH Employee Workplace Data

Chart 4: Primary Areas of Employee Work (N=9)

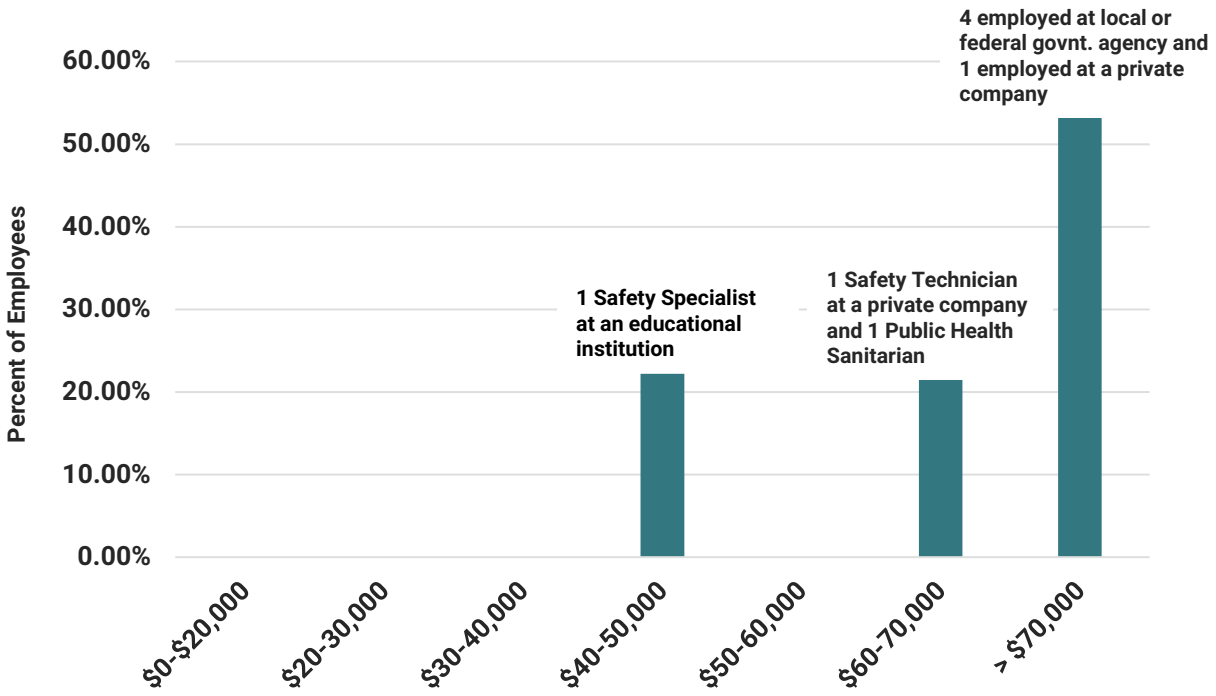


- "Other" areas listed:
  - All areas provided on the survey
  - Occupational Health & Safety for a university
  - Environmental Compliance

Chapter 2. Graduate Employee Results

EH Employee Workplace Data

Chart 5: Salary Ranges of Employees in EH Job Sectors (N=9)



- $40-50,000 per year:
  - Safety Specialist at an education institution
- $60-70,000 per year:
  - Safety Technician at a private company
  - Public Health Sanitarian
- $70,000 per year:
  - Environmental Consultant at local or federal government agency
  - Environmental Health Officer US NAVY at local or federal government
  - Senior Regulatory Officer at local or federal government
  - Environmental Compliance Consultant at a consulting firm
  - HSE Coordinator II at a private company or

Chapter 2. Graduate Employee Results

EH Employee Data on Continuing Education and Professional Development

Table 3: Continuing Education

Certified Environmental Health Professional
Certified Food Manager
Certified Pool Operator
First Aid/CPR Trainer certified
HAZWOPER certified

Table 4: Professional Recognitions

Multiple academic scholarships received during my time as a PhD student after graduating w/ MPH from this school
ST/ASHM from IHMM
Workaholic award

Chapter 2. Graduate Employee Results

EH Employee Credentials Achieved and Professional Association Affiliations

Table 5: Certifications

	Total
Certified Environmental Health Professional	1
Certified Food Manager	1
Certified Pool Operator	1
First Aid and CPR AED	1
First Aid/CPR Trainer certified	2
General industry and construction	1
GSP	1
HAZWOPER certified	1
Licensed Soil Scientist	1
None, but working on achieving a CSP and CIH.	1
None, Signed up for REHS	3
OSHA 30 hour General industry and construction	1
Registered Environmental Health Specialist	1
ServeSafe Food Manger Certified Pool Operator	1
ST/ASHM from IHMM (student associated safety and health manager which is a student version of their ASHM credential)	1

Chapter 2. Graduate Employee Results

EH Employee Credentials Achieved and Professional Association Affiliations

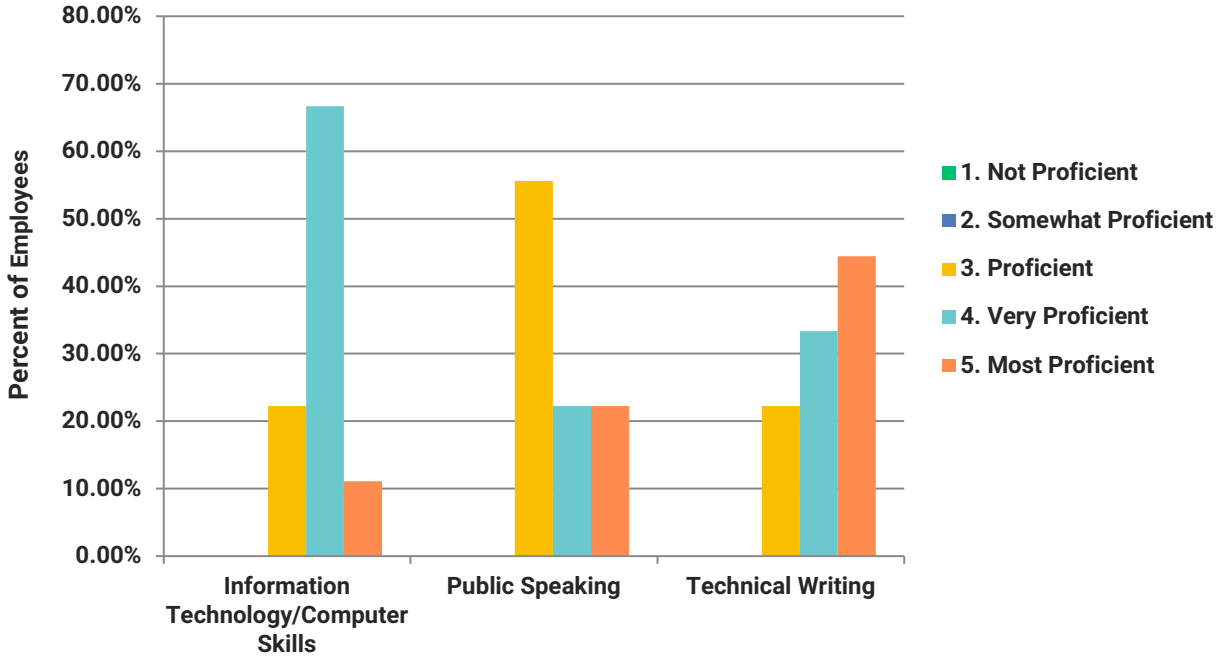
Table 6: Professional Organizations

AIHA - member	Total
Co-Chair of Onsite Wastewater Subcommittee	1
CSHEMA - member	1
Delaware Area Safety Council - Member	1
FEHA	1
NC Environmental Health State of Practice Committee	1
NEHA	5
UC Student Chapter of AIHA - President	1
UK Chemical Safety Committee	1
Whirlpool Ottawa Spill membership	1

Chapter 2. Graduate Employee Results

Employee Skills

Chart 6: Employee Assessment of General Job Skills (N-9)

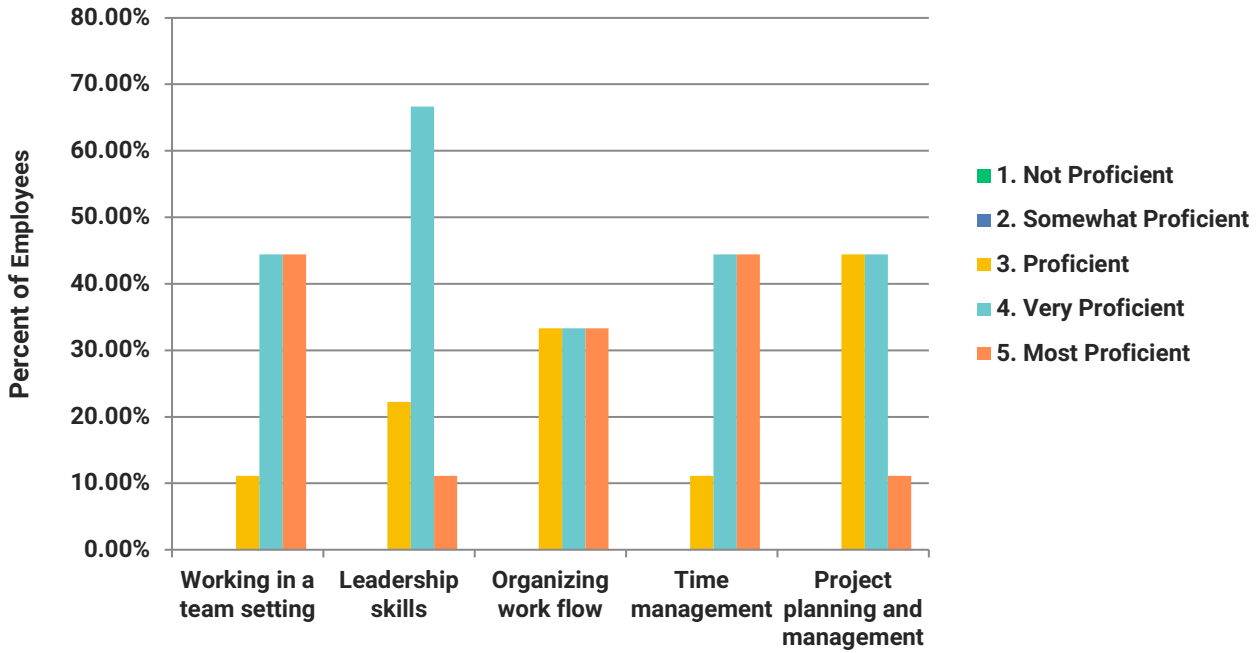


- Employees rated themselves Proficient or Higher in General Job Skills.

Chapter 2. Graduate Employee Results

Employee Skills

Chart 7: Employee Assessment of Interpersonal Skills (N-9)

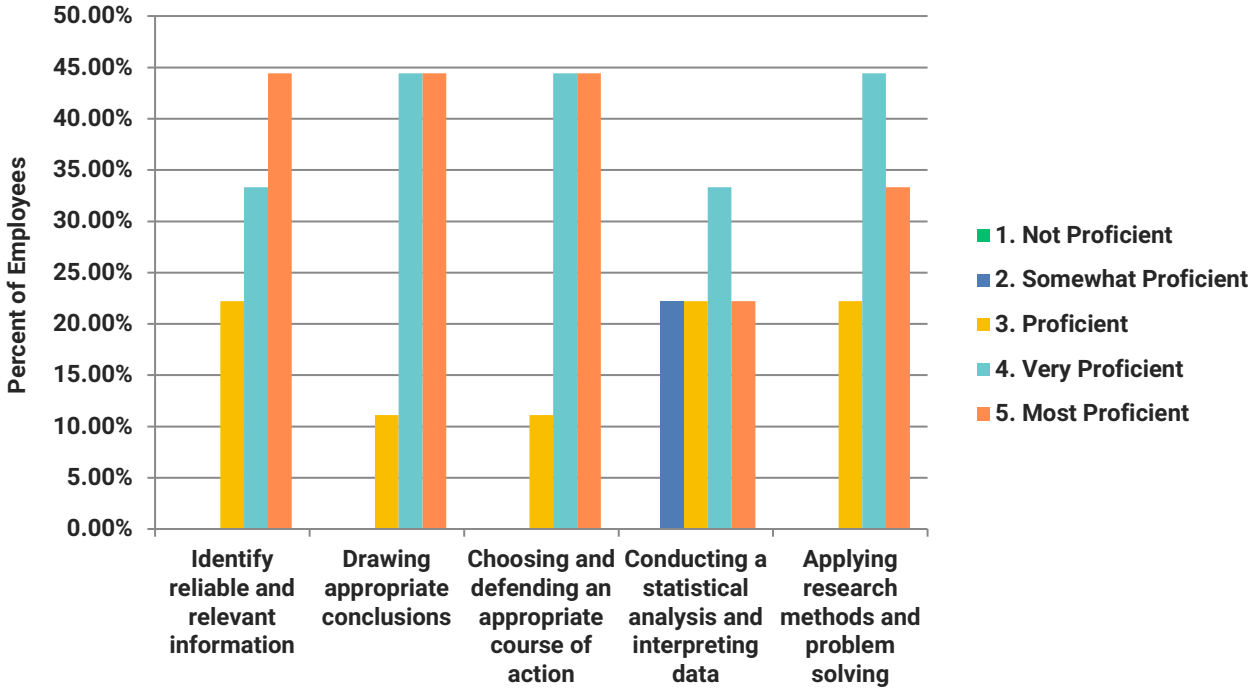


- All employee respondents rated themselves Proficient or higher in assessing their Interpersonal Skills.

Chapter 2. Graduate Employee Results

Employee Skills

Chart 8: Employee Assessment of Ability to Interpret Data (N-9)

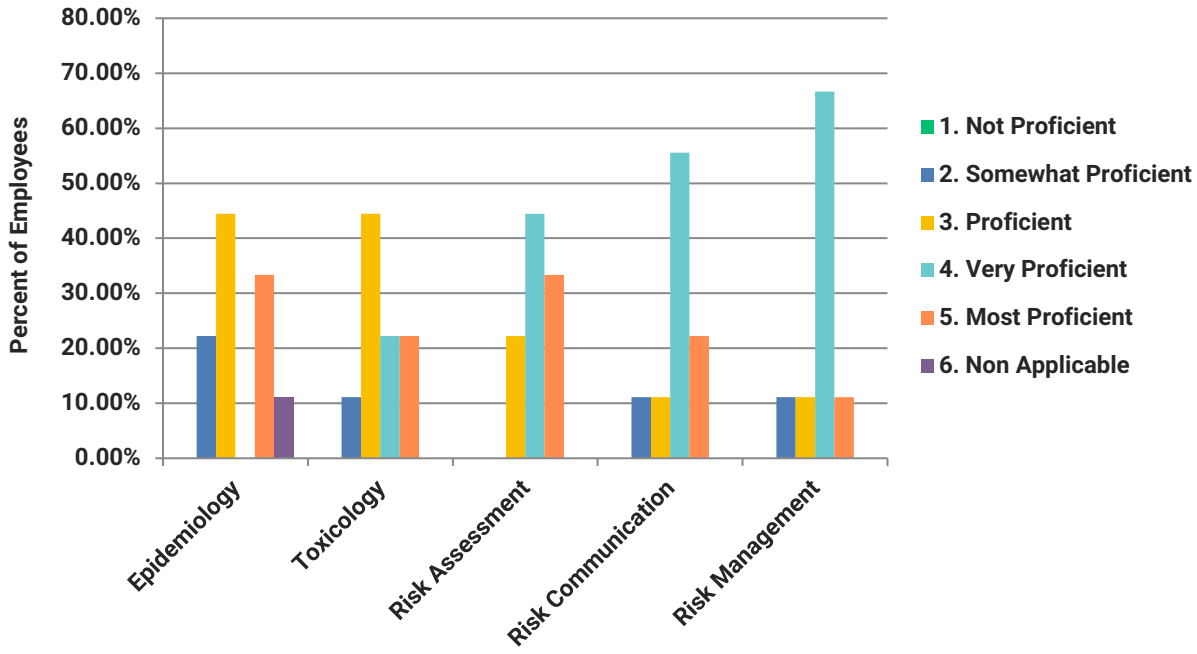


- Respondents rated their Ability to Interpret Data as Proficient or higher in all associated skills except Conducting a Statistical Analysis and Interpreting Data, for which Somewhat Proficient was the assessment.

Chapter 2. Graduate Employee Results

Employee Skills

Chart 9: Employee Assessment of Competency in EH Specific Areas (N=9)

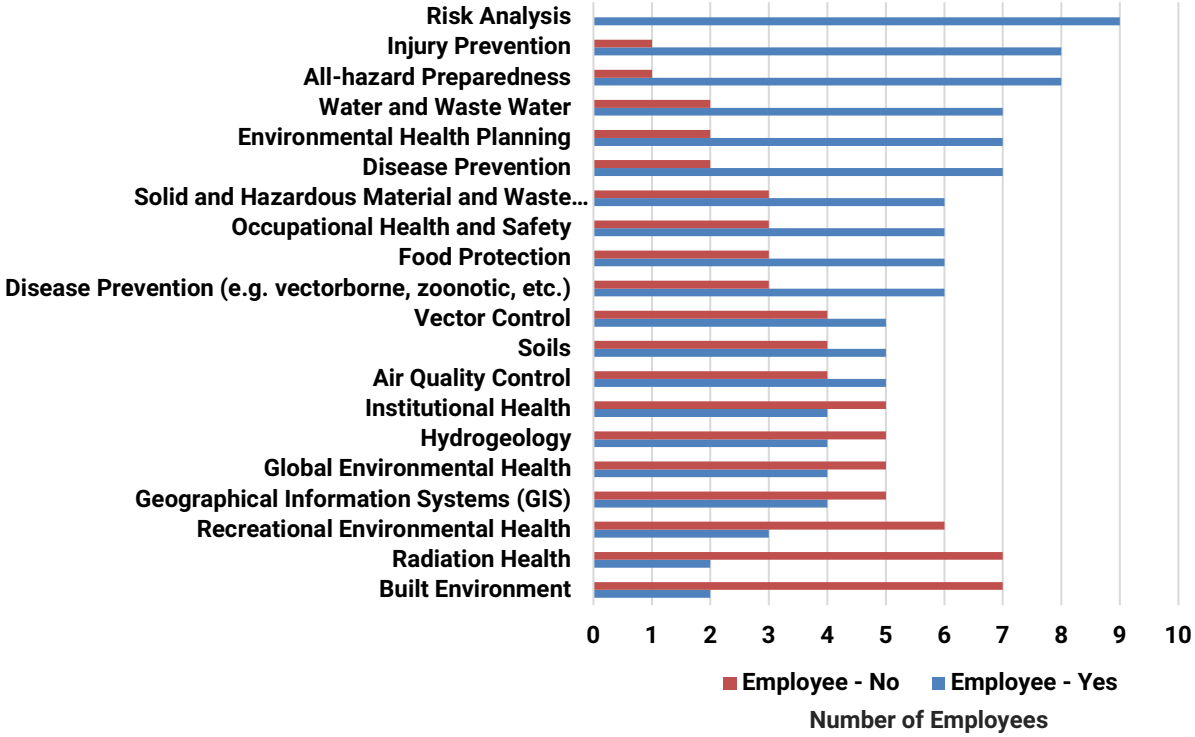


- A majority of employee respondents rated themselves as Proficient or higher in all EH Specific Areas.
- Epidemiology was rate by two students as Somewhat Proficient, while Toxicology, Risk Communication, Risk Management were rated as Somewhat Proficient by one respondent.
- Epidemiology was cited as Non Applicable by one student.

Chapter 2. Graduate Employee Results

EH Specialty Area Relevance

Chart 10: Job Requires Knowledge of the Following EH Specialty Areas – Employee Assessment

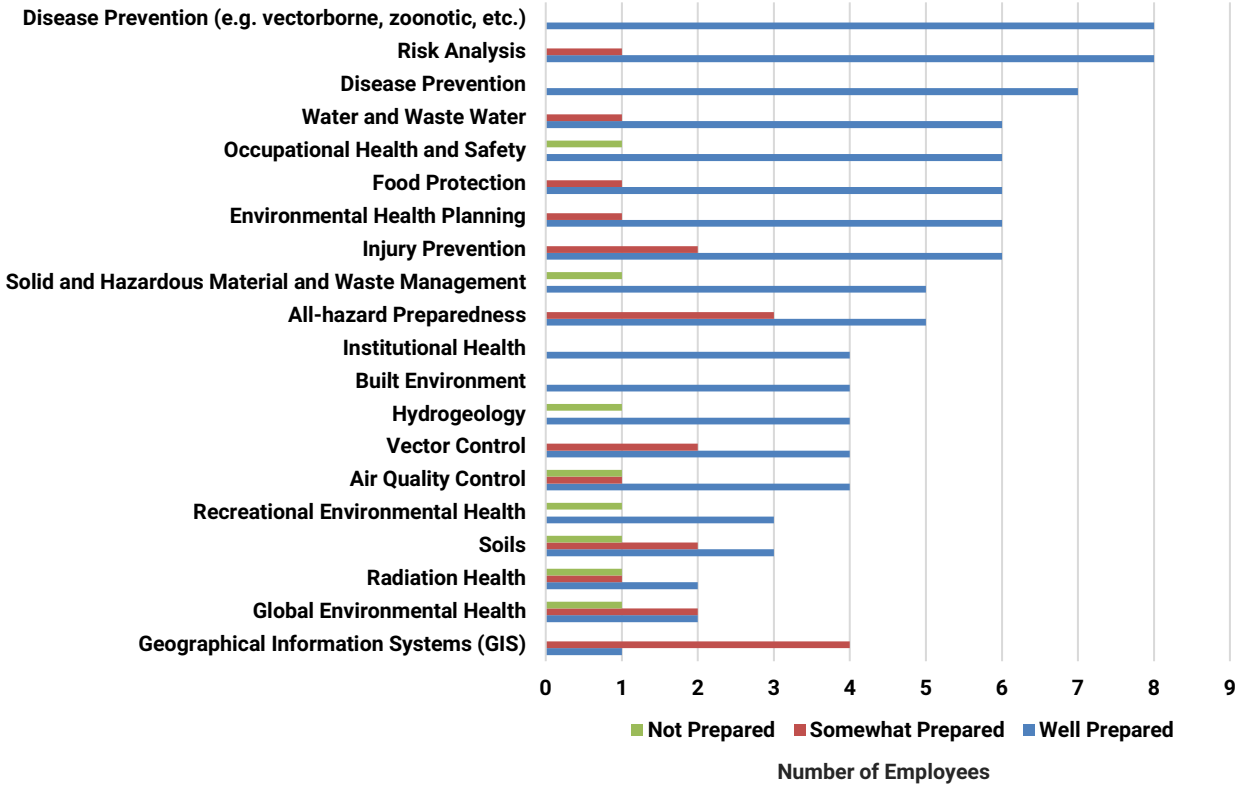


- Half or more of employees found the following EH Specialty Areas required for their jobs:
  - Risk Analysis
  - Injury Prevention
  - All-hazard Preparedness
  - Water and Waste Water
  - Environmental Health Planning
  - Disease Prevention
  - Solid and Hazardous Material and Waste Management
  - Occupational Heath and Safety
  - Food Protection
  - Disease Prevention (e.g. vectorborne, zoonotic, etc.)
  - Vector Control
  - Soils
  - Air Quality Control.
- Half or more of respondents found the following not to be required for their jobs:
  - Built Environmental
  - Radiation Health
  - Recreational Environmental Health
  - Geographical Information Systems (GIS)
  - Global Environmental Health
  - Hydrogeology
  - Institutional Health.

Chapter 2. Graduate Employee Results

EH Specialty Area Program Preparation

Chart 11: Employee Assessment of Preparedness in EH Specialty Areas

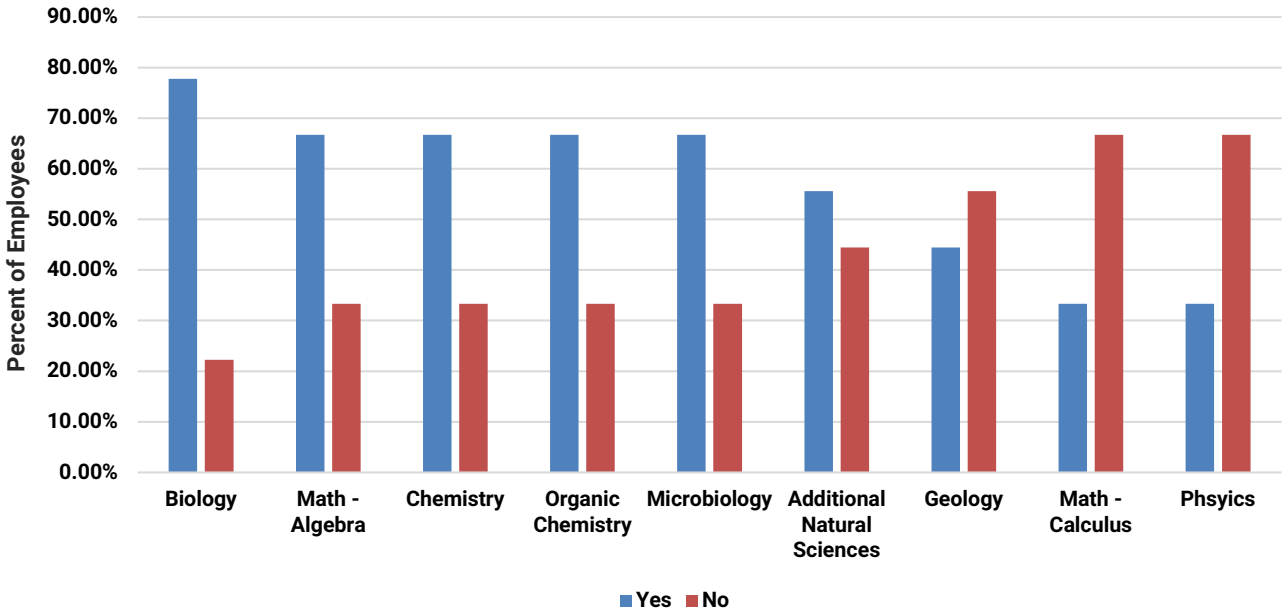


- All respondents except one reported being Somewhat or Well Prepared in all EH Specialty Areas.
- One respondent assessed themselves as Not Prepared in some areas. These same areas were also reported as Not Required for their employment.
- Note that one Employee reported Engineering Safety Controls as an additional skill needed for their job.

Chapter 2. Graduate Employee Results

EH Related Science and Math Requirements

Chart 12: Job Requires Knowledge of Math and EH Related Sciences (N=9)

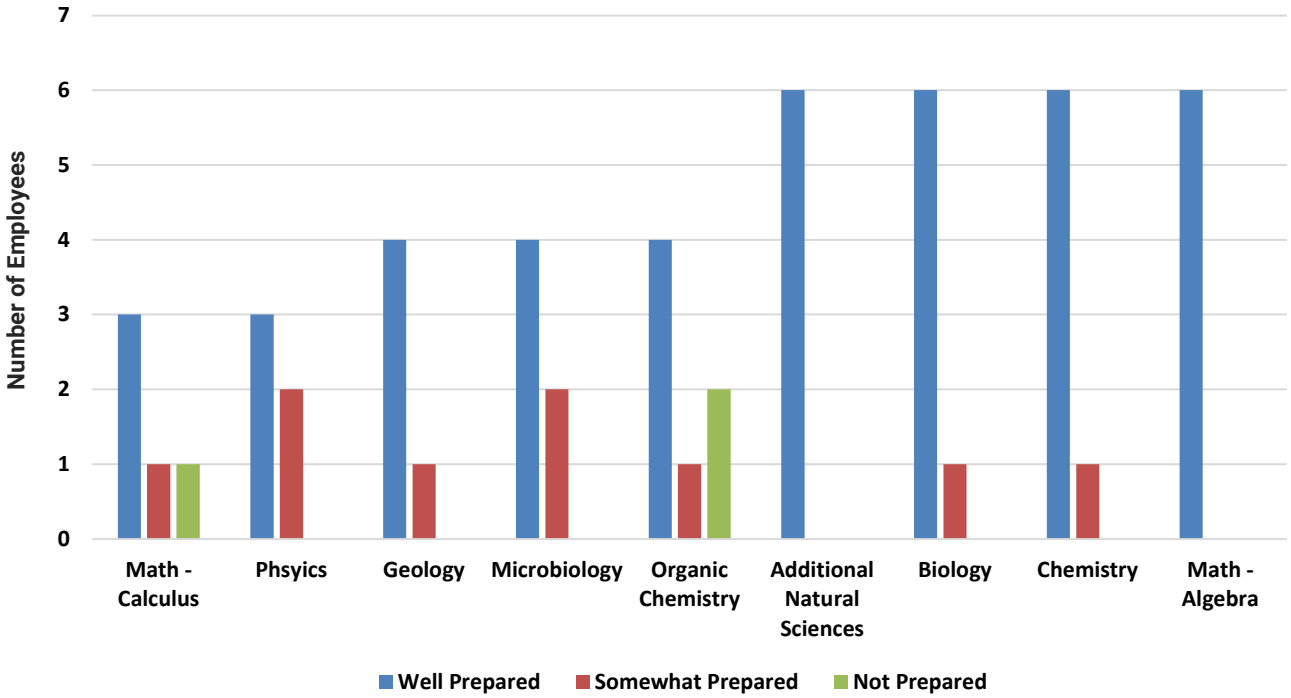


- 50% or more of the employee respondents reported the following Math areas and EH Related Sciences relevant to their jobs:
  - Biology
  - Algebra
  - Chemistry
  - Organic Chemistry
  - Microbiology
  - Additional Natural Sciences.
- 50% or more respondents found the following Math areas and EH related Sciences not relevant to their jobs:
  - Calculus
  - Physics
  - Geology.

Chapter 2. Graduate Employee Results

EH Related Science and Math Requirements

Chart 13: Employee Assessment of Preparedness in EH Related Sciences and Math



- Regardless of whether EH Related Science and Math topics are required by their job, the majority of respondents reported being Well Prepared in all areas.
- Two or less respondents reported being only Somewhat Prepared in EH Science and Math Requirements.
- One respondent reported Not Prepared in Calculus and two employees reported Not Prepared in Organic Chemistry.

Chapter 3. Graduate Supervisor Results

Supervisor Summary:

Supervisors of employees who graduate from 2023-2024 reaccrediting programs were asked to assess the skills and preparedness of their employees. Three supervisors responded to the survey. Their responses are presented below along with information related to their job sector and primary areas of work.

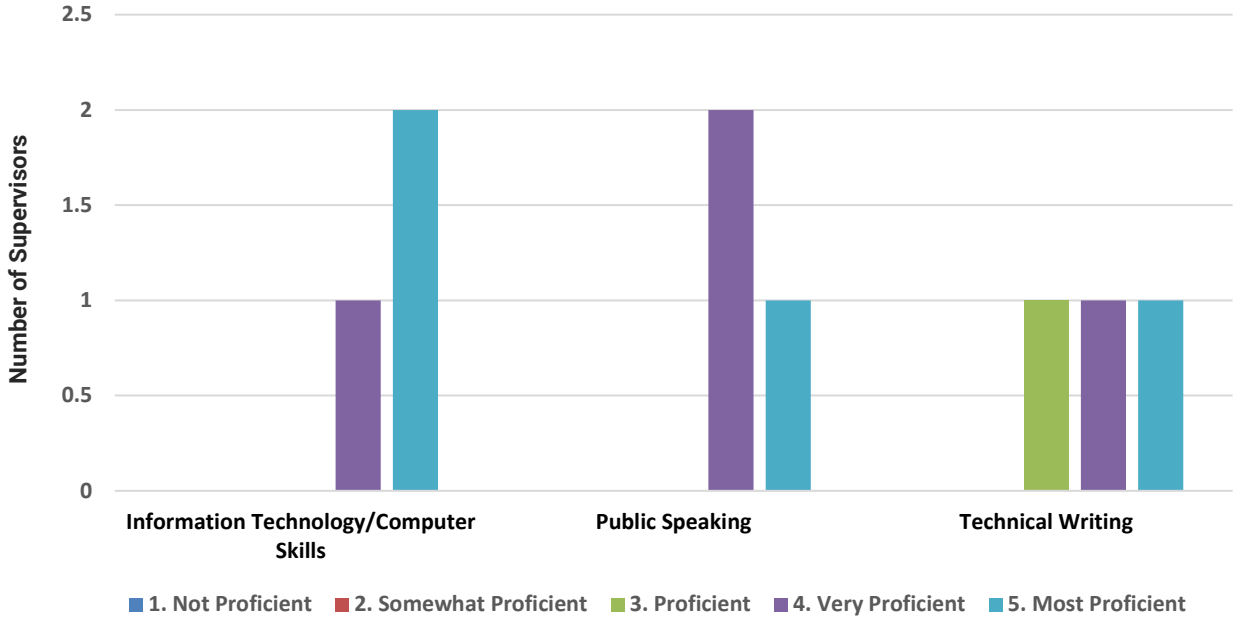
Respondents hold the following positions:

- Foodborne Outbreak and Response Team Lead for a local or federal government agency (FDA)
- Public Health Sanitarian Supervisor in Environmental Health for a local or federal agency
- Director of Occupational Health and Safety an educational institution

Chapter 3. Graduate Supervisor Results

Employee Skills

Chart 14: Supervisor Assessment of Employee General Job Skills (N=3)

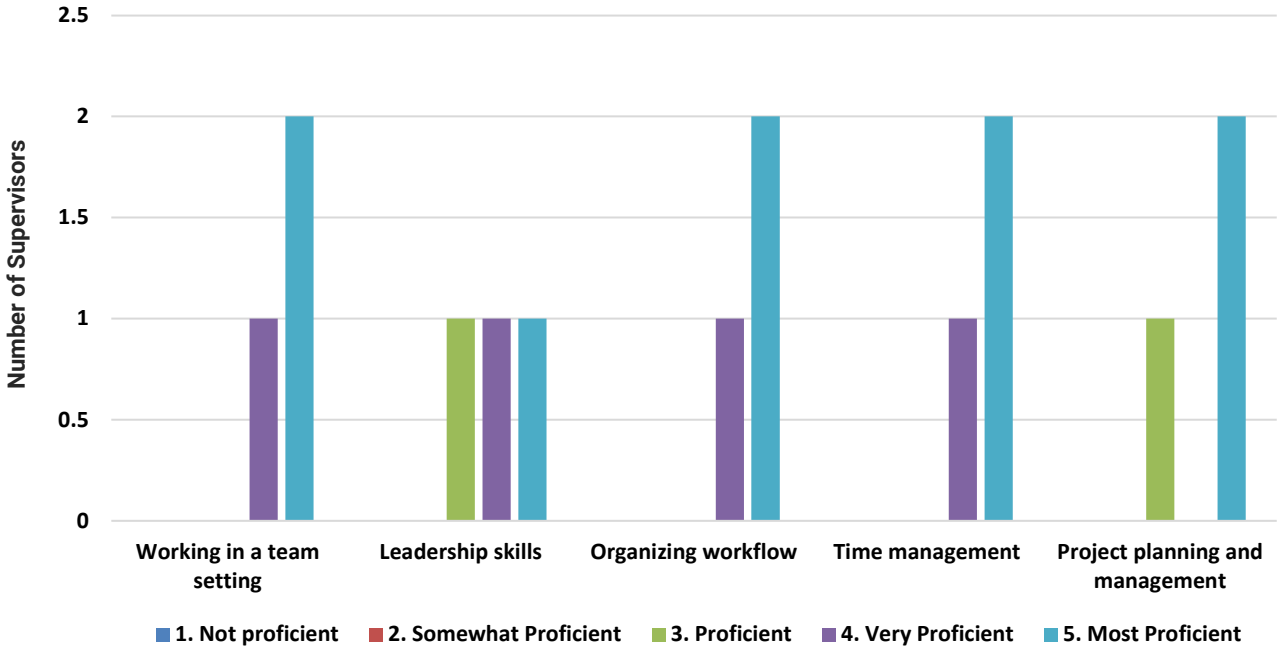


- **Supervisors reported Employees as Proficient or better at General Job Skills, with Information Technology/Computer Skills and Public Speaking receiving the highest assessments.**

Chapter 3. Graduate Supervisor Results

Employee Skills

Chart 15: Supervisor Assessment of Employee Interpersonal Skills (N=3)

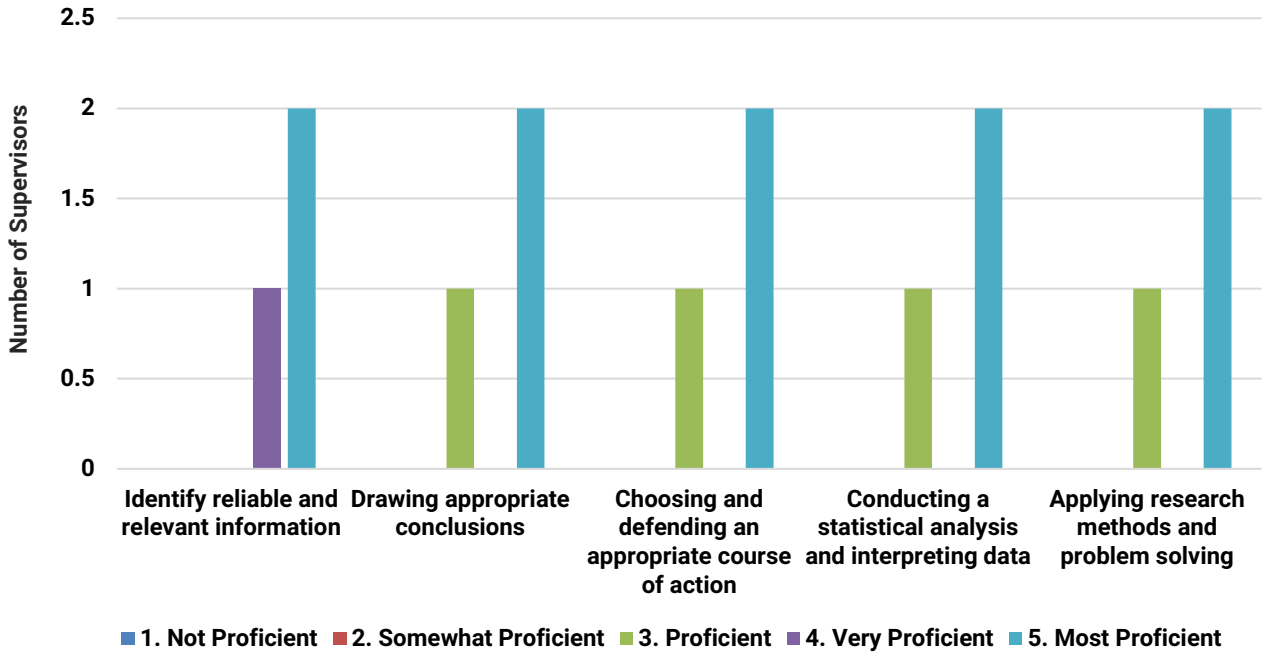


- Supervisors reported Proficient or better for Interpersonal Skills. Working in a Team Setting, Organizing Workflow, and Time Management received the highest assessments.

Chapter 3. Graduate Supervisor Results

Employee Skills

Chart 16: Supervisor Assessment of Employee Ability to Interpret Data (N=3)

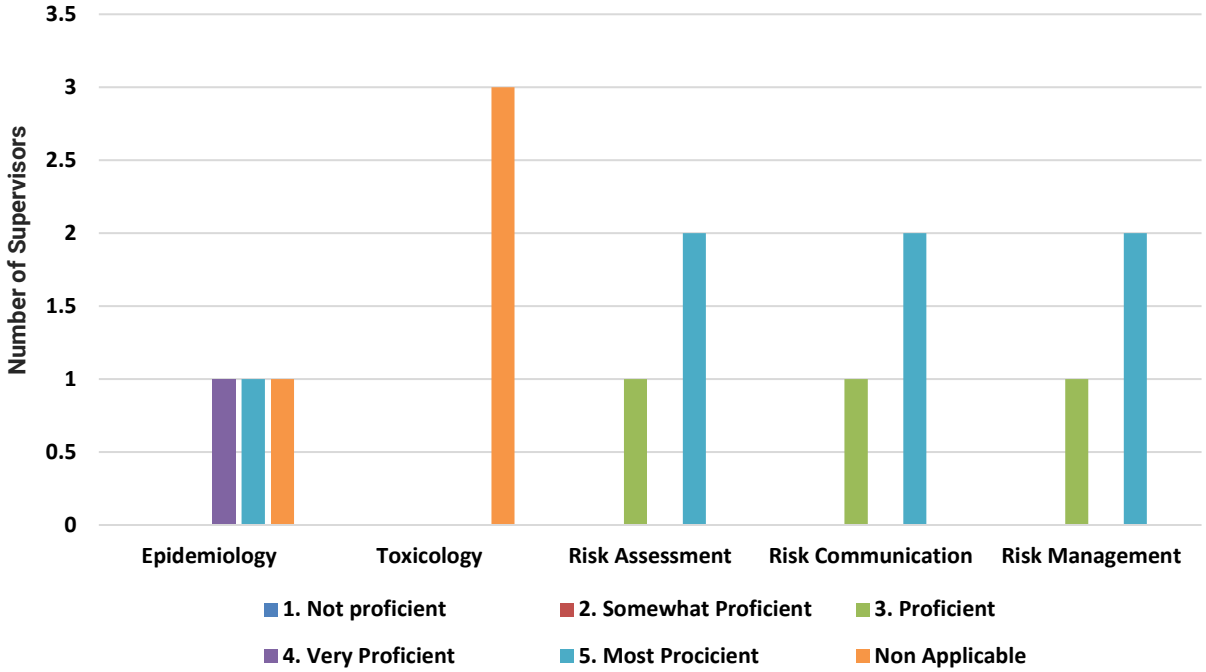


- Supervisors found Employee Ability to Interpret Data Proficient or higher, as well.
  - Identifying Reliable and Relevant Information receive the highest rating.

Chapter 3. Graduate Supervisor Results

Employee Skills

Chart 17: Supervisor Assessment of Employee Proficiency in EH Specific Areas (N=3)

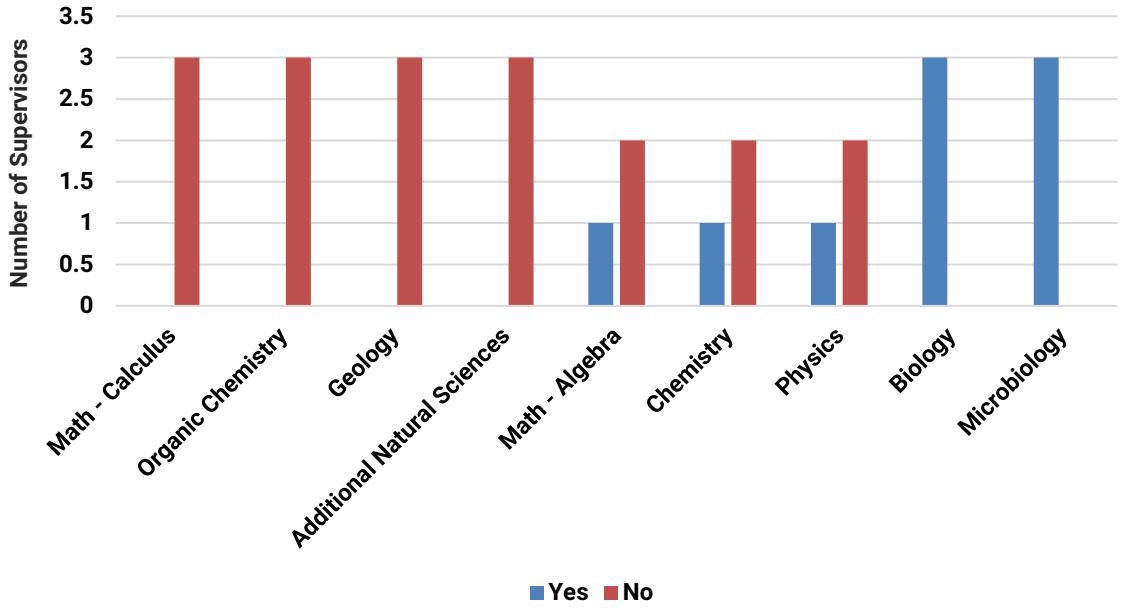


- Employees received Proficient or high ratings for EH Specific Areas.
  - Toxicology was reported as Non Applicable by all Supervisors.
  - Epidemiology was reported as Non Applicable by one Supervisor.

Chapter 3. Graduate Supervisor Results

EH Related Science and Math Requirements

Chart 18: Job Requires Knowledge of Math and EH Related Science

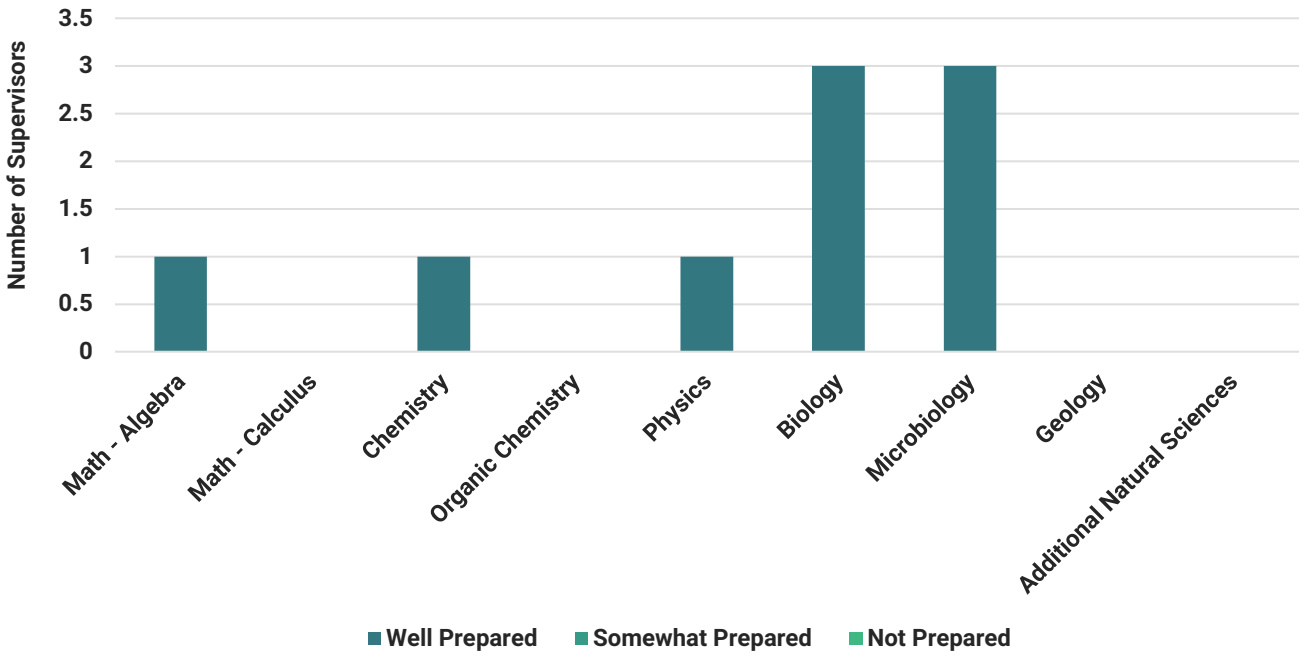


- One to three supervisors reported the following Math and EH Related Sciences required by jobs:
  - Microbiology
  - Biology
  - Physics
  - Chemistry
  - Algebra.
- All Supervisors agreed that the following were not required of their employees:
  - Calculus
  - Organic Chemistry
  - Geology
  - Additional Natural Science.

Chapter 3. Graduate Supervisor Results

EH Related Science and Math Requirements

Chart 19: Supervisor Assessment of Preparedness in EH Related Sciences and Math

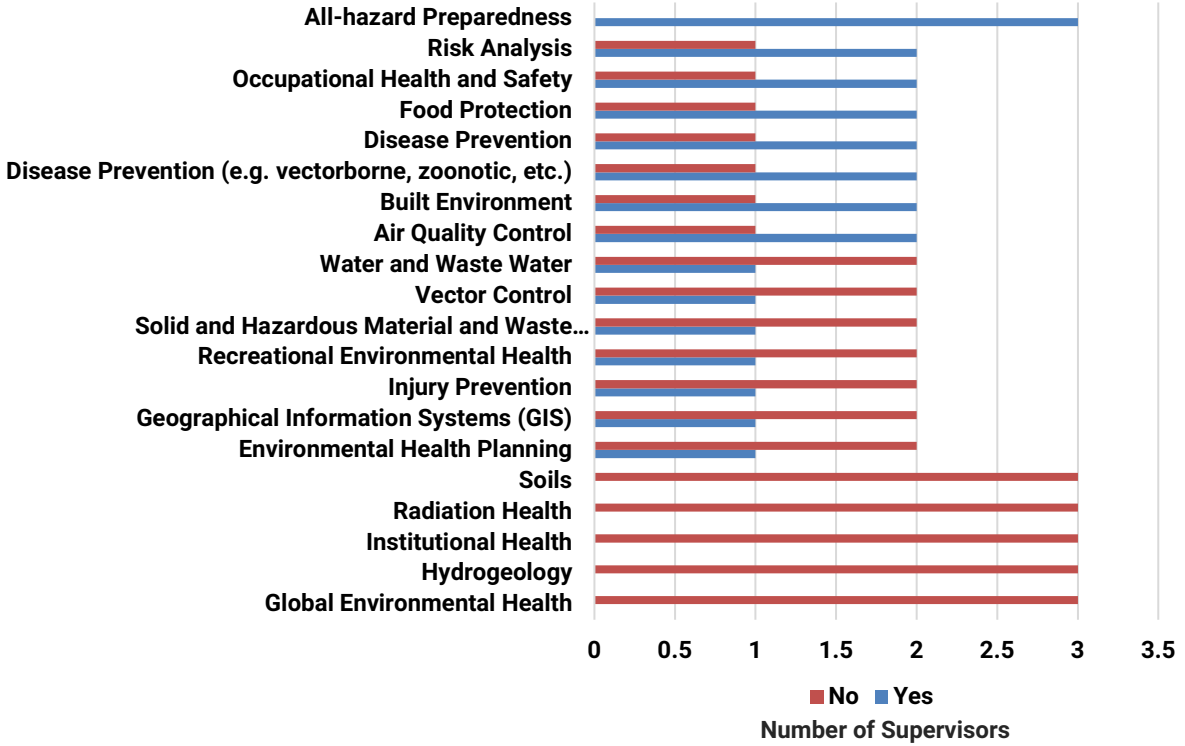


- Supervisors found employees Well Prepared in the EH Related Science and Math areas including:
  - Microbiology
  - Biology
  - Physics
  - Chemistry
  - Algebra.
- Note that Supervisors reported Calculus, Organic Chemistry, Geology, and Additional Natural Sciences as unnecessary for jobs.

Chapter 3. Graduate Supervisor Results

EH Supervisors – EH Specialty Areas

Chart 20: Does Employee's Job Require Knowledge of the following EH Specialty Areas

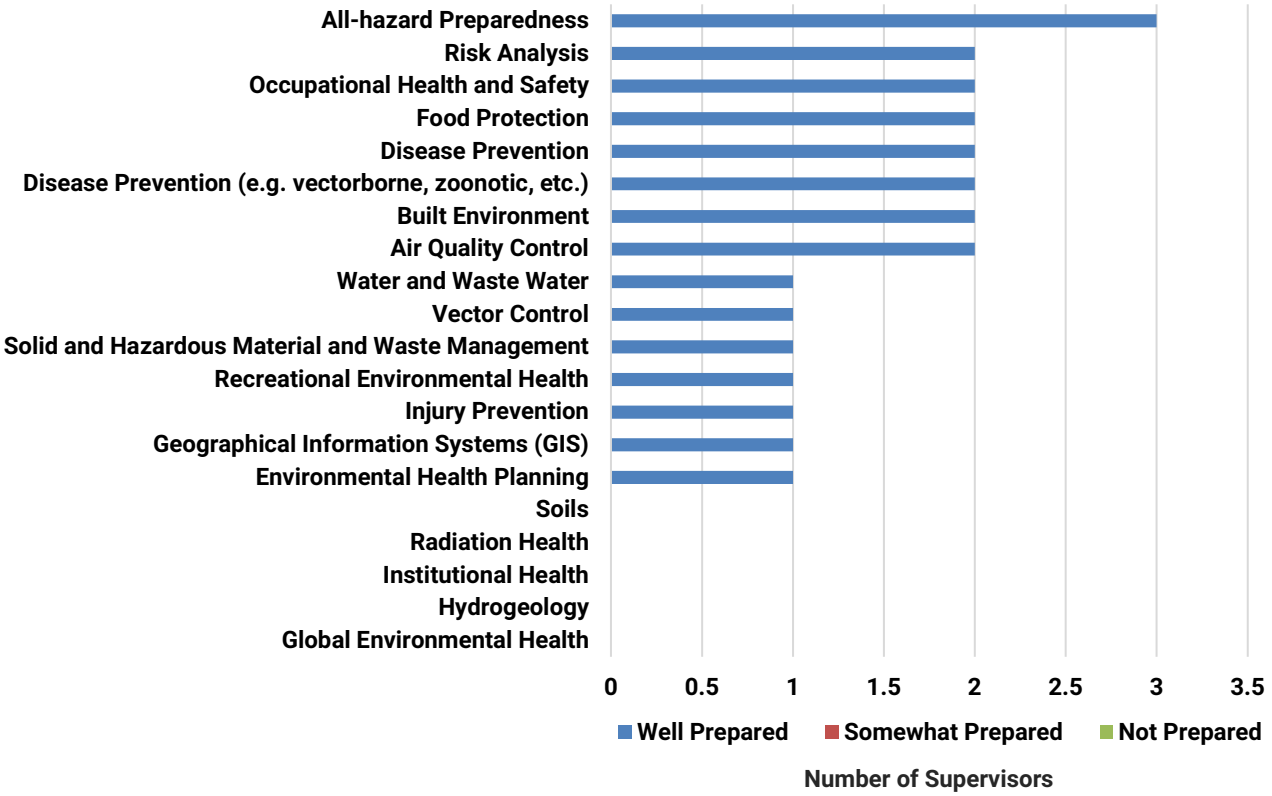


- Half or more Supervisors reported the following EH Specialty Areas as necessary for jobs:
  - All-hazard Preparedness
  - Risk Analysis
  - Occupational Health and Safety
  - Food Protection
  - Disease Prevention
  - Disease Prevention (e.g. vectorborne, zoonotic, etc.)
  - Built Environment
  - Air Quality Control.
- All Supervisors found these areas unnecessary for employees' jobs:
  - Soils
  - Radiation Health
  - Institutional Health
  - Hydrogeology
  - Global Environmental Health.

Chapter 3. Graduate Supervisor Results

EH Supervisors – EH Specialty Areas

Chart 21: Supervisor Assessment of Employee Preparation



- Supervisors reported Employees as Well Prepared in all EH Specialty Areas required by their jobs.

Chapter 4. Graduate Narrative and Discussion

Narrative and Discussion:

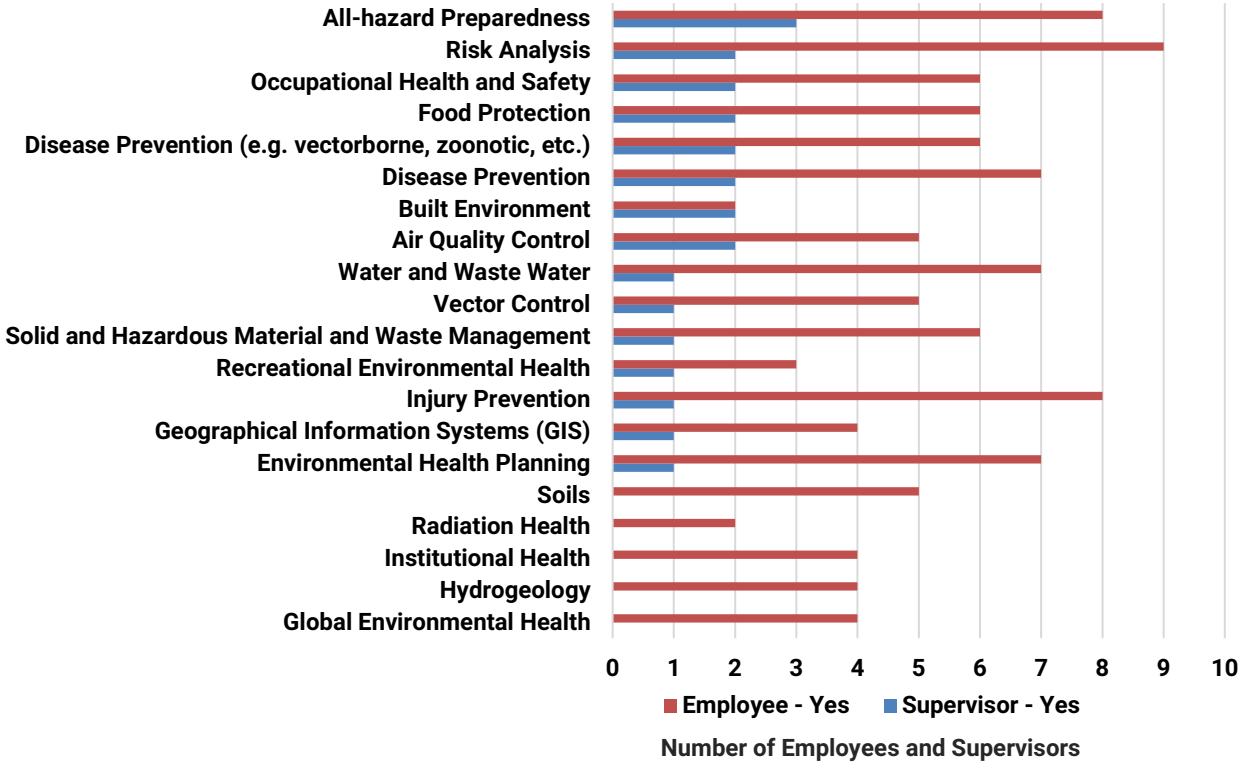
EHAC accredits EH academic programs in order to create educational degree programs that produce EH graduates who are well prepared academically and have the fundamental and practical skills to successfully enter and thrive in the EH field. EHAC's primary mission is to enhance the education and training of students in EH science and protection by ensuring that students receive premium quality education and training from EHAC accredited degree programs.

The following slides provide a side-by-side comparison of employee and supervisor assessment of employee knowledge, skills, and preparation in EH related areas.

Chapter 4. Graduate Employees/Supervisors - Discussion

EH Specialty Knowledge Areas

Chart 22: Employee and Supervisor Assessment of Employee Need for Knowledge in EH Specialty Areas

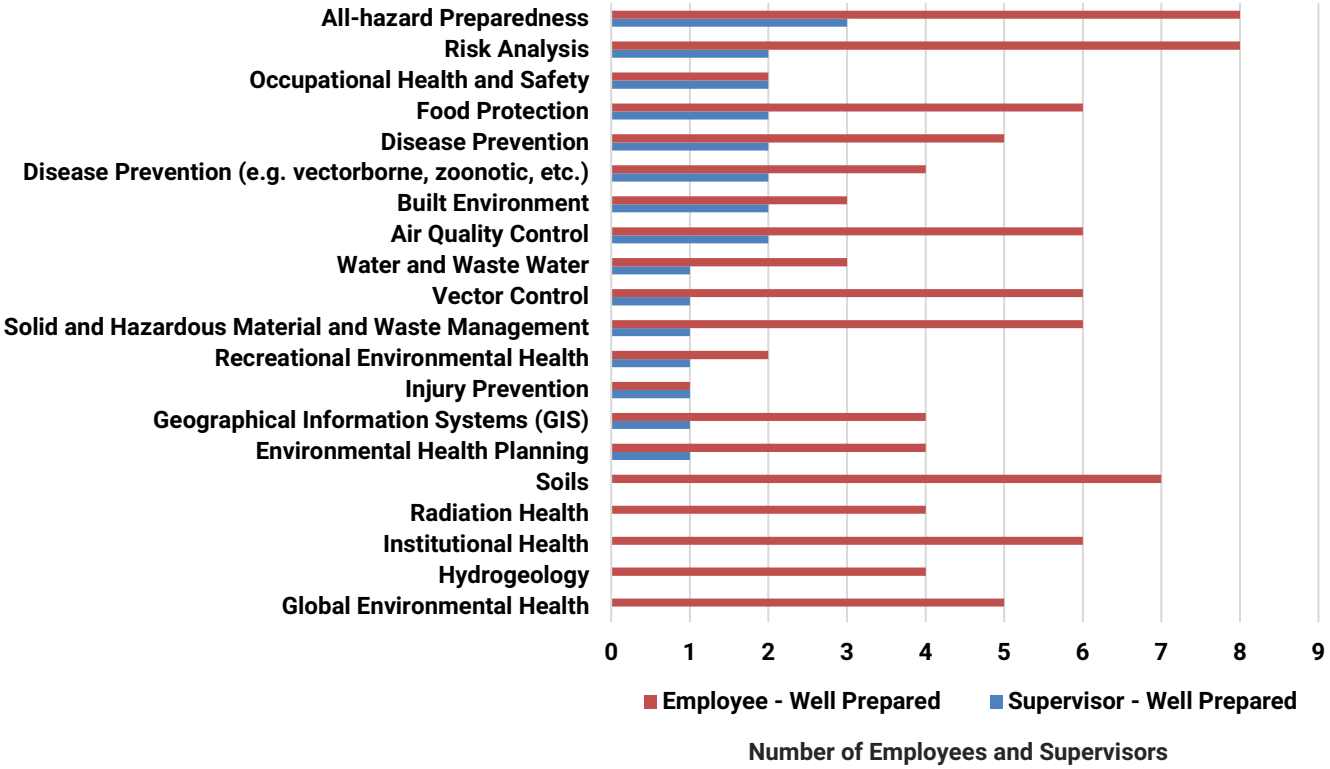


- Supervisors and Employees agreed on the Need for Knowledge in all EH Specialty except:
  - Soils
  - Radiation Health
  - Institutional Health
  - Hydrogeology
  - Global Environmental Health.

Chapter 4. Graduate Narrative and Discussion

EH Specialty Areas – Job Skills Assessments

Chart 23: Employee and Supervisor Assessment of Employee Preparedness in EH Specialty Areas

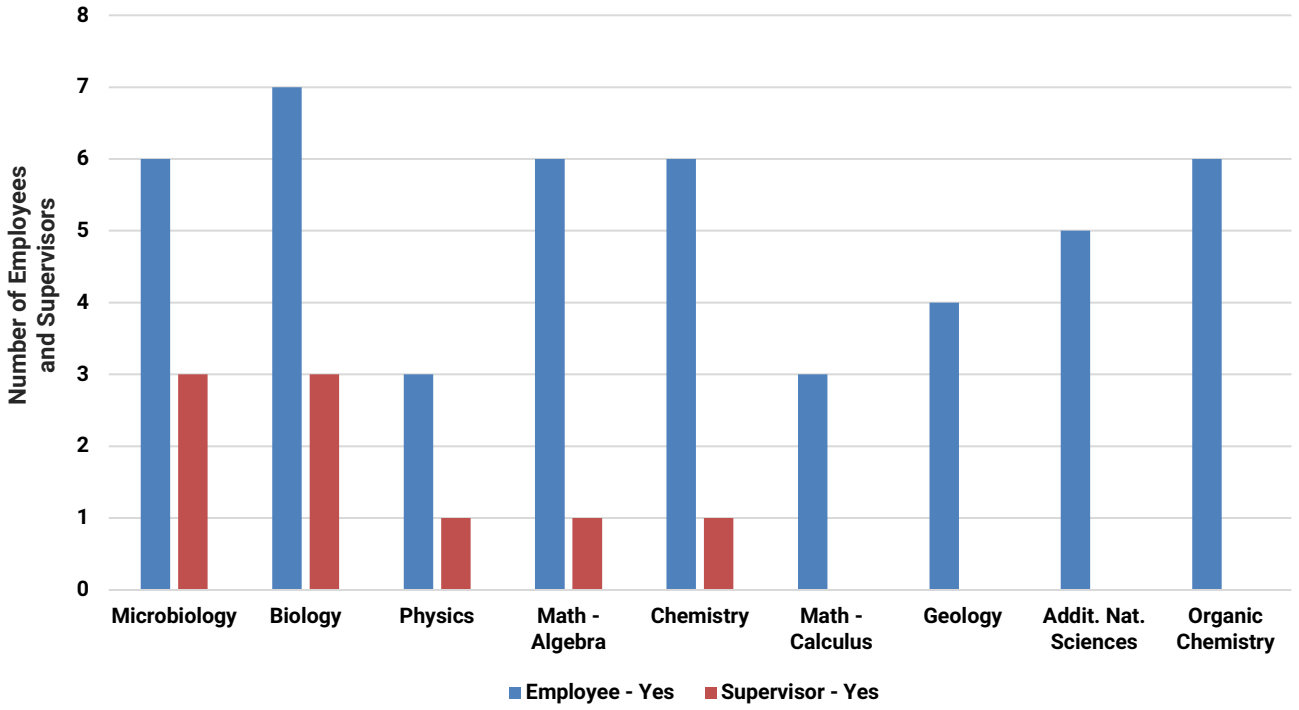


- Supervisors and Employees found agreement on Employee Preparedness in all Areas reported by Supervisors as necessary for jobs.
- One employee reported being unprepared for one EH Specialty Area reported by Supervisors as required by their job:
  - Solid and Hazardous Material and Waste Management.

Chapter 4. Graduate Narrative and Discussion

EH Specialty Areas – Job Skills Assessments

Chart 24: Employee and Supervisor Assessment of Need for EH Science and Math Areas

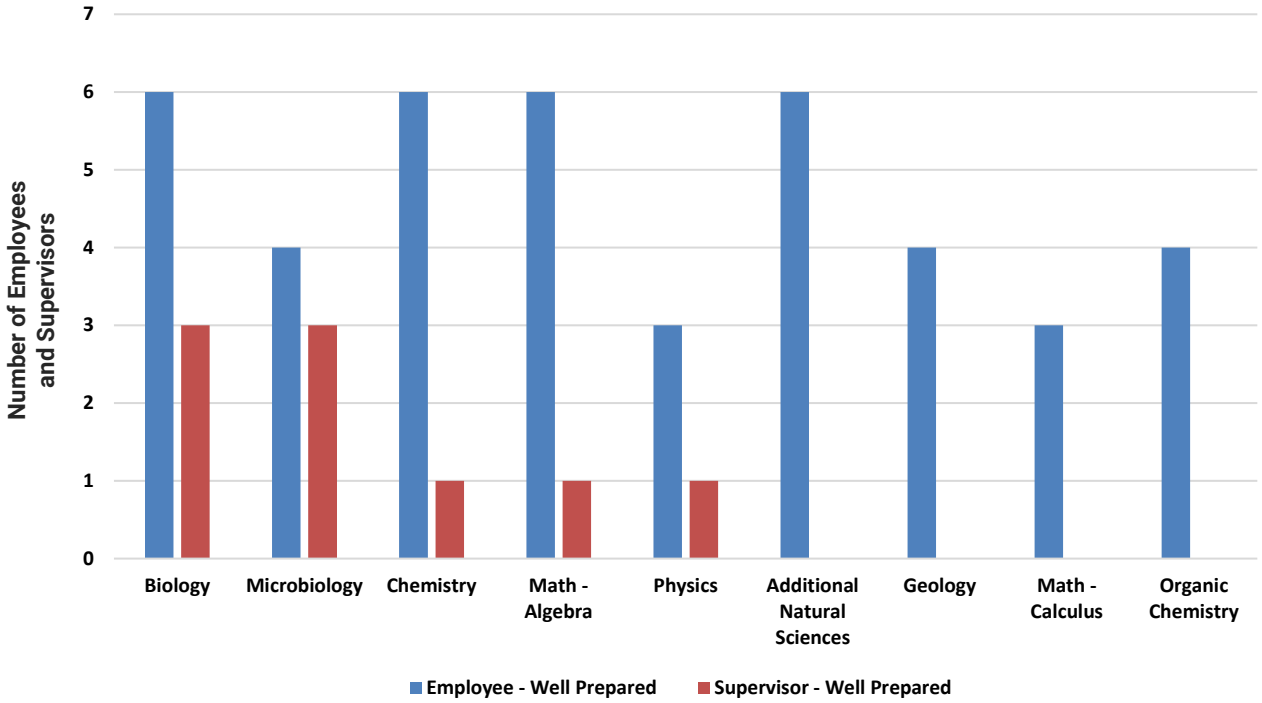


- Supervisors and Employees agreed on the Need for EH Science and Math Areas below:
  - Biology
  - Microbiology
  - Chemistry
  - Algebra
  - Physics.
- Employees also found the need for other EH Science and Math Areas in their jobs as well:
  - Organic Chemistry
  - Additional Natural Sciences
  - Geology
  - Calculus.

Chapter 4. Graduate Narrative and Discussion

EH Specialty Areas – Job Skills Assessments

Chart 25: Employee and Supervisor Assessment of Employee Preparedness in EH Science and Math Areas



- Supervisors found Employees Well Prepared in all EH Science and Math Areas that Supervisors reported are required by employee jobs.

Thank You!

Questions? Contact Executive Director Leslie Mitchell at executive.director@nehspac.org