Contents

Analysis of Disaster Response Survey Data

Introduction:

This report analyzes survey data from 120 individuals involved in disaster response efforts in Turkey, with the aim of identifying shortcomings when multiple international organizations are involved. The analysis focuses on four key areas:

Role and Awareness: Examining participants' understanding of their roles and responsibilities within the response framework, including communication and coordination with government officials and other organizations.

Personal Preparedness and Confidence: Assessing individual preparedness and confidence levels in responding to various disaster scenarios, including mass casualty incidents and natural disasters.

Organizational Response: Evaluating the effectiveness of organizational response protocols and procedures, including communication, resource access, and deployment strategies.

Resource Management: Analyzing the efficiency of resource allocation and distribution, including needs assessment, donation management, and potential resource accumulation issues.

The analysis utilizes descriptive statistics, correlations, and reliability measures to provide a comprehensive understanding of the strengths and weaknesses in disaster response coordination among international organizations.

Data Cleaning and Preparation:

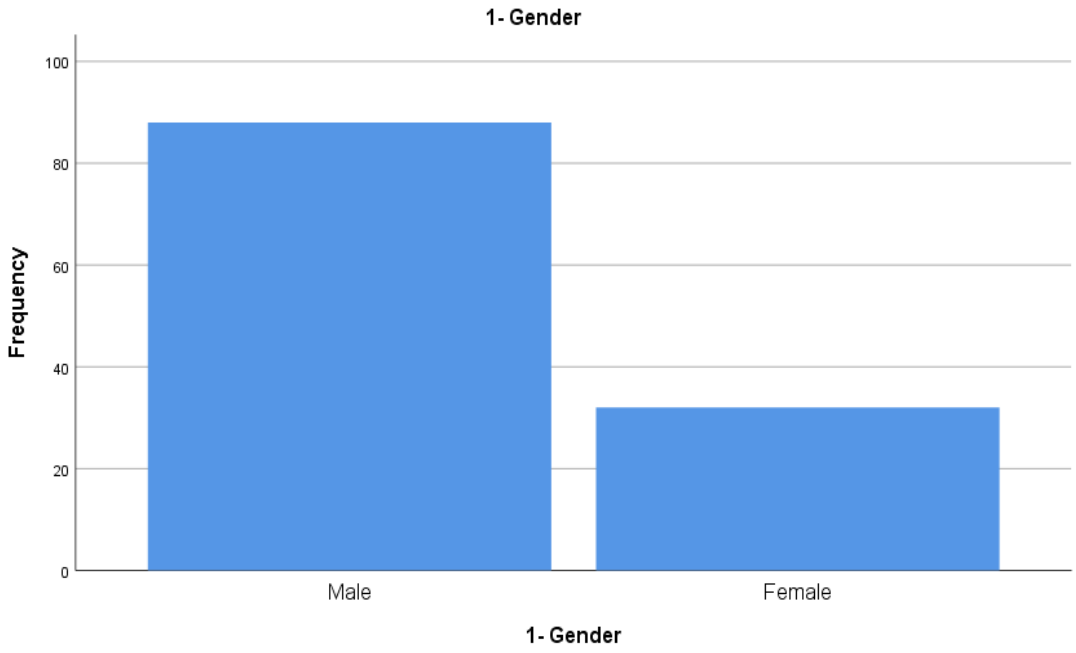
The data was reviewed and no missing values, outliers, or inconsistencies were identified. Categorical variables were recoded as necessary for analysis.

Descriptive Statistics:

Descriptive statistics were calculated for all variables, including frequencies, means, standard deviations.

Distribution of Respondents:

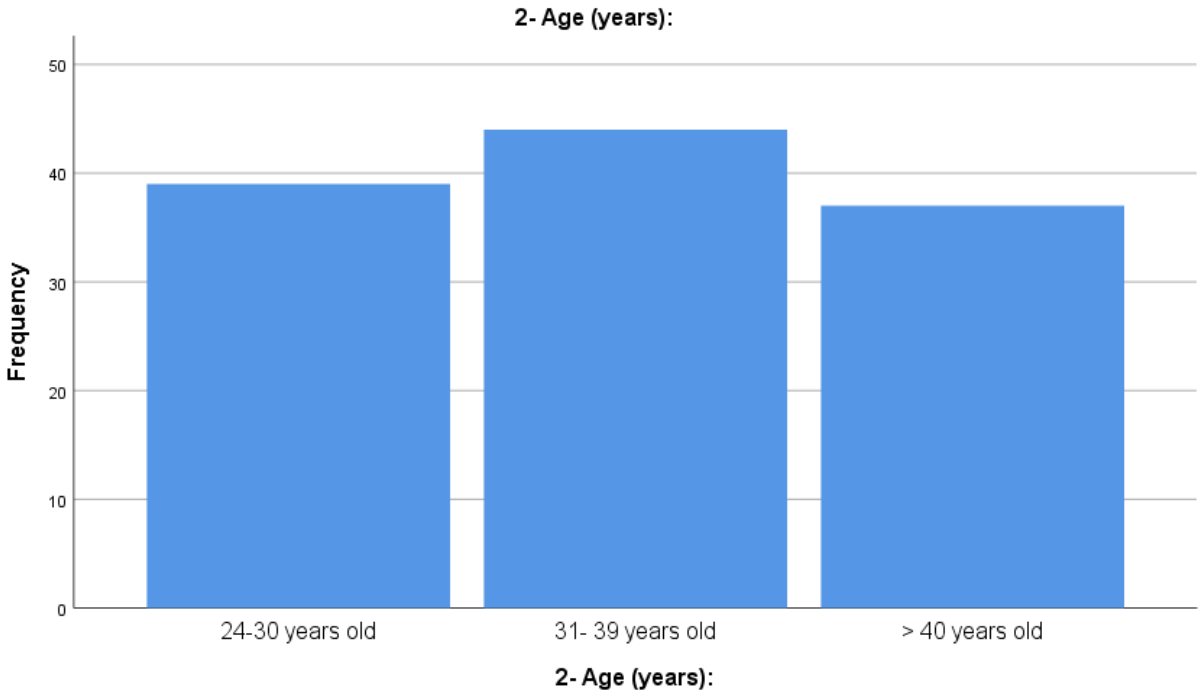
- **Gender:** 73.3% male, 26.7% female.



Gender

	Frequency	Percent
Male	88	73.3
Female	32	26.7
Total	120	100.0

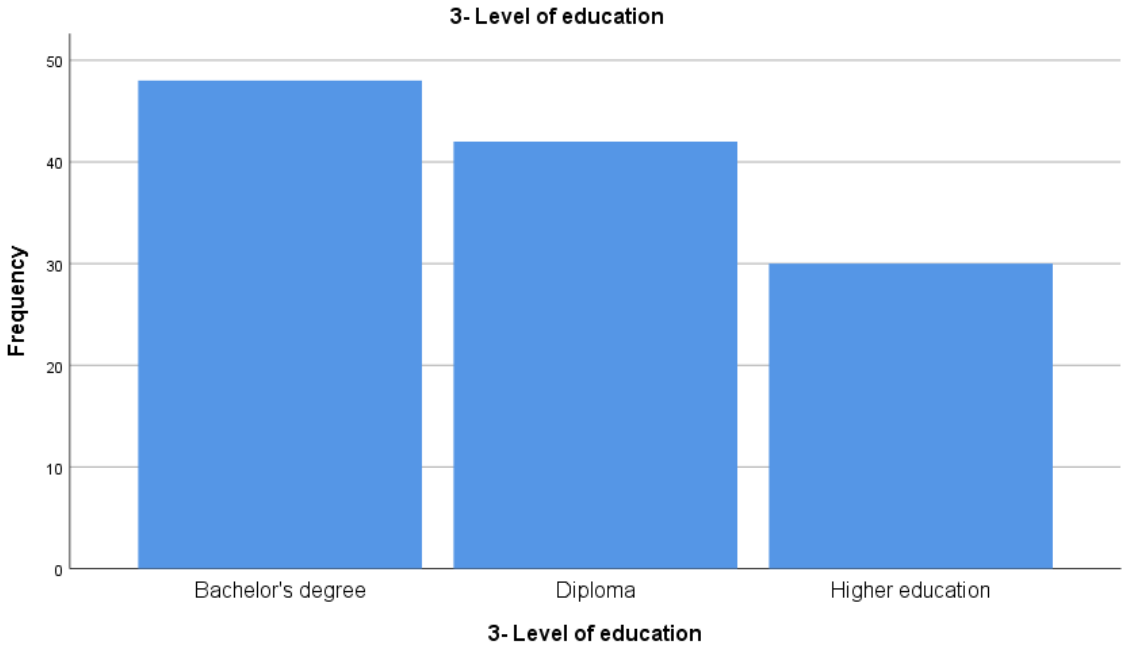
- **Age:**
  - 24-30 years old: 32.5%
  - 31-39 years old: 36.7%
  - 40 years old: 30.8%



Age (years):

	Frequency	Percent
24-30 years old	39	32.5
31- 39 years old	44	36.7
> 40 years old	37	30.8
Total	120	100.0

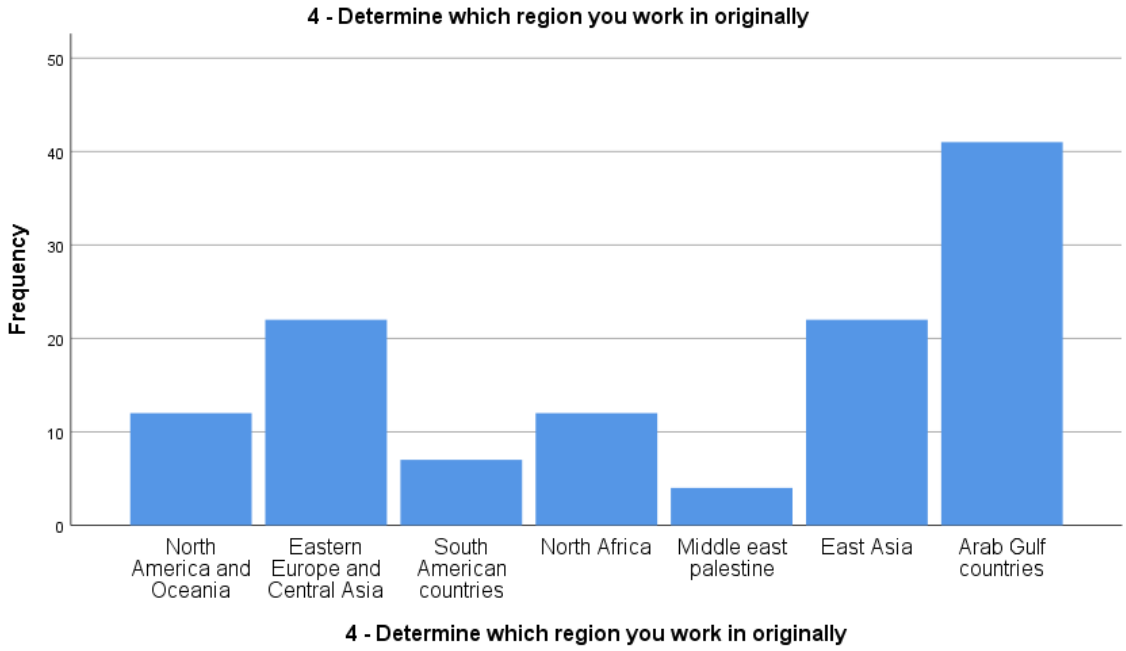
- **Level of Education:**
  - Diploma: 35%
  - Bachelor's degree: 40%
  - Higher education: 25%



Level of education

	Frequency	Percent
Bachelor's degree	48	40.0
Diploma	42	35.0
Higher education	30	25.0
Total	120	100.0

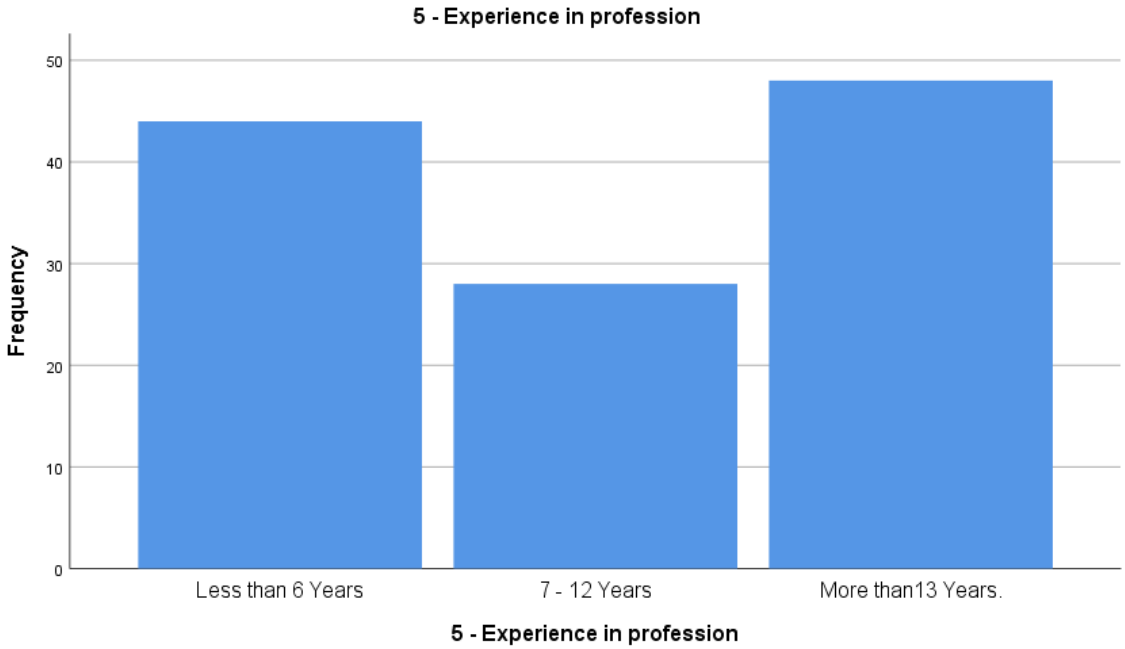
- **Region of Origin:**
  - Arab Gulf countries: 34.2%
  - East Asia: 18.3%
  - Eastern Europe and Central Asia: 18.3%
  - North Africa: 10%
  - North America and Oceania: 10%
  - South American countries: 5.8%
  - Middle east Palestine 3.3%



Determine which region you work in originally

	Frequency	Percent
North America and Oceania	12	10.0
Eastern Europe and Central Asia	22	18.3
South American countries	7	5.8
North Africa	12	10.0
Middle east palestine	4	3.3
East Asia	22	18.3
Arab Gulf countries	41	34.2
Total	120	100.0

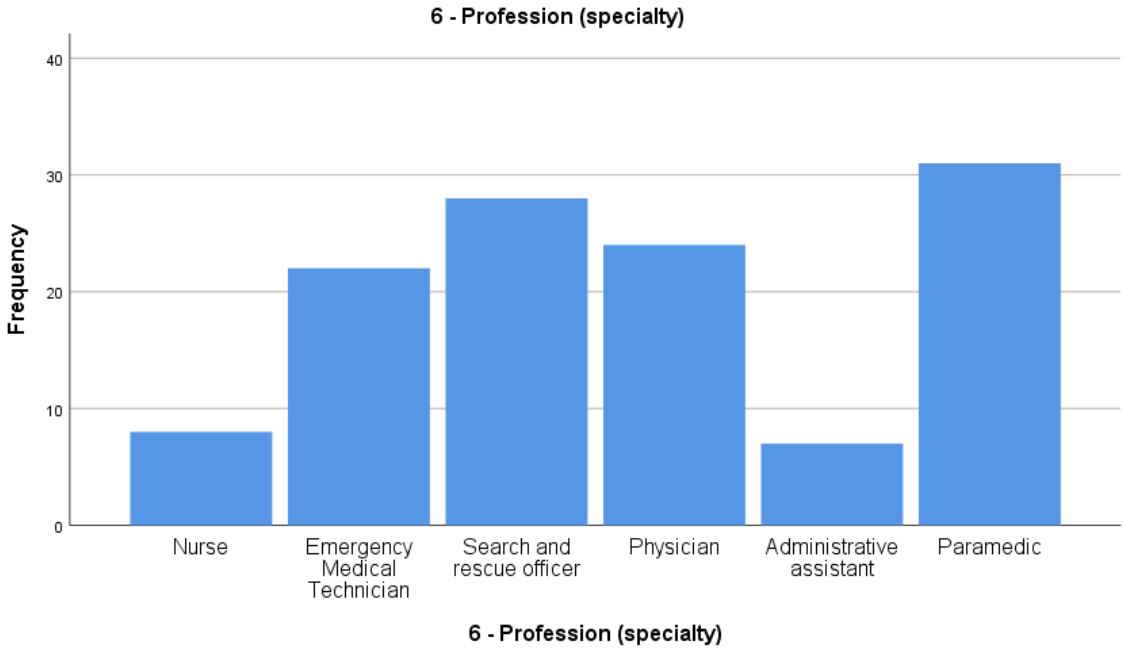
- **Experience in Profession:**
  - Less than 6 years: 36.7%
  - 7-12 years: 23.3%
  - More than 13 years: 40%



Experience in profession

	Frequency	Percent
Less than 6 Years	44	36.7
7 - 12 Years	28	23.3
More than13 Years.	48	40.0
Total	120	100.0

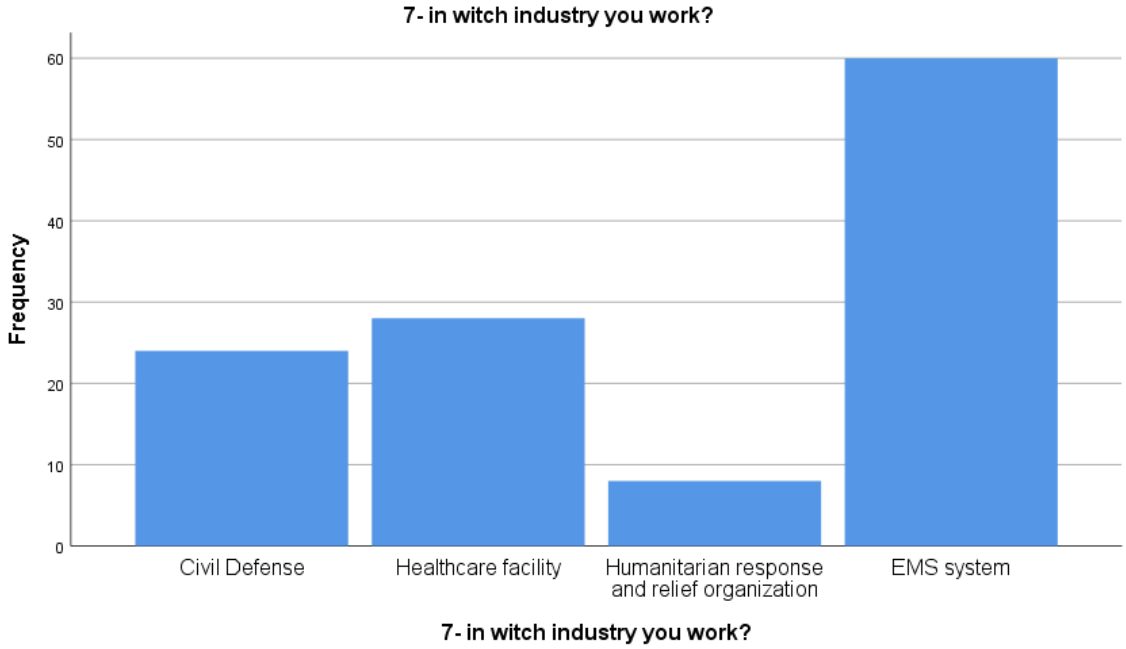
- **Profession (specialty):**
  - Paramedic: 25.8%
  - Search and rescue officer: 23.3%
  - Physician: 20%
  - Administrative assistant: 5.8%
  - Emergency Medical Technician 18.03%
  - Nurse: 6.7%



6 - Profession (specialty)

	Frequency	Percent
Nurse	8	6.7
Emergency Medical Technician	22	18.3
Search and rescue officer	28	23.3
Physician	24	20.0
Administrative assistant	7	5.8
Paramedic	31	25.8
Total	120	100.0

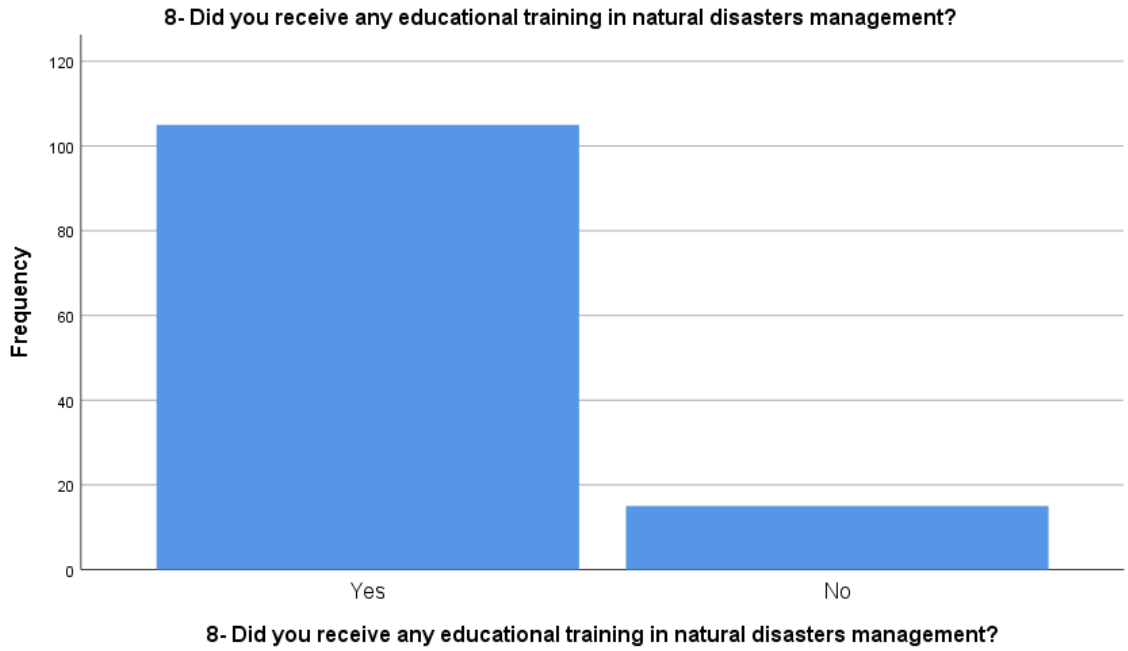
- **Industry:**
  - EMS system: 50.0%
  - Healthcare facility: 23.3%
  - Civil Defense: 20.0%
  - Humanitarian response and relief organization: 6.7%



in witch industry you work?

	Frequency	Percent
Civil Defense	24	20.0
Healthcare facility	28	23.3
Humanitarian response and relief organization	8	6.7
EMS system	60	50.0
Total	120	100.0

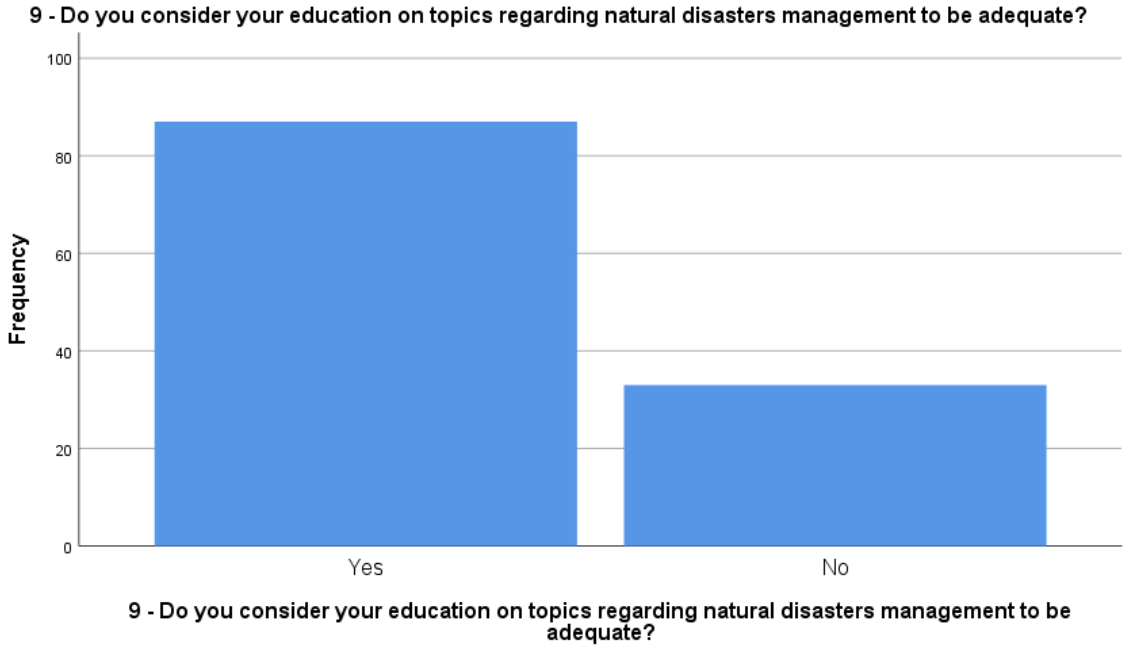
- **Disaster Management Training:** 87.5% received training, 12.5% did not.



Did you receive any educational training in natural disasters management?

	Frequency	Percent
Yes	105	87.5
No	15	12.5
Total	120	100.0

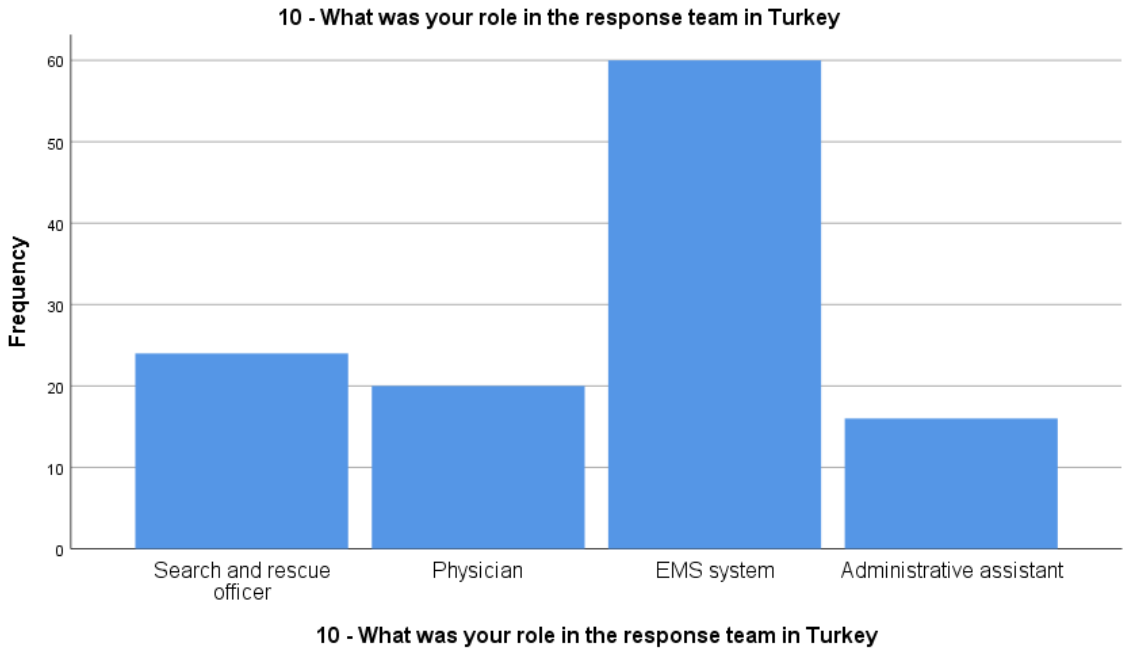
- **Adequacy of Education:** 72.5% Saied yes, 27.5 No.



Do you consider your education on topics regarding natural disasters management to be adequate?

	Frequency	Percent
Yes	87	72.5
No	33	27.5
Total	120	100.0

- **Role:**
    - EMS system: 50.0%
    - Search and rescue officer 20.0%
    - Physician 16.7%
    - Administrative assistant 13.3%



What was your role in the response team in Turkey

	Frequency	Percent
Search and rescue officer	24	20.0
Physician	20	16.7
EMS system	60	50.0
Administrative assistant	16	13.3
Total	120	100.0

Exploring Relationships:

The sample's opinions regarding the following variables:

Q	N	Missing	Mean	Std. Deviation
Var1: Role and Awareness				
11 - Were you aware of the mechanism of contacting a government official for consultation to coordinate the required assistance?	120	0	3.100	1.226
12 - Were you informed upon your arrival of the communication, coordination and supervision procedures Established by the authorities in disaster-affected areas?	120	0	2.867	1.236
Var2: Personal Preparedness and Confidence				
22 - Employees in my organization receive training in SPHERE standards?	120	0	2.742	1.399
23 - Employees in my organization receive training in the safer access framework?	120	0	2.867	1.315
26 - I am confident in my ability to respond effectively to disasters, including mass casualty incidents, explosive injuries, active shooter incidents and natural disasters?	120	0	3.650	1.351
27 - The physical and psychological well-being of disaster response personnel is assessed in my organization?	120	0	3.267	1.510
Var3: Organizational Response:				
15 - A representative from my organization has been assigned to handle the media?	120	0	3.100	1.331
16 - My organization was able to communicate effectively with other organizations participating in the same site?	120	0	3.233	1.459
17 - My organization was able to quickly access tools and equipment needed to perform its work such as medical tools, and equipment for search and rescue?	120	0	3.050	1.472
18 - I got a briefing of the areas I will be working in and ways to access them?	120	0	3.400	1.305
24 - My organization respond regularly to national crises or disasters?	120	0	3.683	1.069
25 - My organization respond regularly to international crises or disasters?	120	0	3.600	1.469
28 - Disaster response has detailed response protocols and procedures in my organization ?	120	0	3.033	1.408
29 - Disaster response protocols and procedures are regularly updated in my organization?	120	0	2.933	1.419
Var4: Resource Management:				
13 - Was the distribution of emergency assistance according to the plan and was not repeated in the same areas?	120	0	2.800	1.171

Q	N	Missing	Mean	Std. Deviation
14 - Were you able to collect information and review it for accuracy of the management of humanitarian supplies?	120	0	3.200	1.281
19 - There was a clear mechanism to stop/or redistribute the resources that began to accumulate?	120	0	3.067	1.442
20 - Donations were delivered randomly to the affected areas ?	120	0	2.475	1.372
21 - There was a clear mechanism for assessing the need for the type and amount of resources needed?	120	0	2.775	1.393

Knowing that the distribution of categories is shown in the following table:

Category	Category length	Result
First	1-1.8	strongly disagree
Second	1.81-2.6	disagree
Third	2.61-3.4	Neutral
Fourth	3.41-4.2	agree
Fifth	4.21 - 5	strongly agree

Correlations (Pearson correlation coefficient[1])

Name of Variables	Correlation coefficient/#	Var1	Var2	Var3	Var4	all variables
Var1	Pearson Correlation	1	.687**	.749**	.668**	.764**
	N	120	120	120	120	120
Var2	Pearson Correlation	.687**	1	.799**	.812**	.918**
	N	120	120	120	120	120
Var3	Pearson Correlation	.749**	.799**	1	.757**	.944**
	N	120	120	120	120	120
Var4	Pearson Correlation	.668**	.812**	.757**	1	.912**
	N	120	120	120	120	120
all variables	Pearson Correlation	.764**	.918**	.944**	.912**	1
	N	120	120	120	120	120

According to Pearson correlation, it is observed that there is a strong positive correlation between all variables, at a significance level of .005.

It turns out that Organizational Response constitutes a higher correlation than the rest of the variables, as well as Personal Preparedness and Confidence, with a degree of correlation, respectively: 94%, 91%.

[1] - **. Correlation is significant at the 0.05 level (2-tailed).

Cronbach's alpha coefficient:

Cronbach's alpha coefficient was used to measure the reliability of the questionnaire, which expresses the average internal correlation between the statements it measures. Its value ranges between 0 - 1, and the accepted value for it is 0.6 or more. The closer its value is to the correct one, the higher the stability of the tool and the greater its suitability for use. The results for the questionnaire were As shown in the following table:

Cronbach's alpha coefficient	#	Name of Varibale
0.947	19	All
0.836	2	Var1: Role and Awareness
0.762	4	Var2: Personal Preparedness and Confidence
0.873	8	Var3: Organizational Response
0.897	5	Var4: Resource Management:

Based on the previous table, it can be said that the questionnaire enjoys stability and credibility, and can be relied upon to analyze the results and answer the study questions.

One-Sample Statistics

This test aimed to compare the average responses for each variable against a neutral midpoint value of 3 ("Neutral" on the response scale). The results indicate:

Role and Awareness: The average response fell slightly below the neutral point (2.98), suggesting a slight tendency towards disagreement with statements related to role clarity and awareness of coordination mechanisms.

Personal Preparedness and Confidence: The average score exceeded the neutral point (3.13), indicating a moderate level of agreement with statements regarding individual preparedness and confidence in disaster response.

Organizational Response: The average score was significantly higher than the neutral point (3.25), demonstrating a clear tendency towards agreement with statements about organizational response effectiveness.

Resource Management: The average score fell below the neutral point (2.86), suggesting a slight tendency towards disagreement with statements related to efficient resource management and distribution.

These findings highlight potential areas for improvement, particularly in clarifying roles and communication mechanisms, as well as optimizing resource management strategies.

	N	Mean	Std. Deviation	Std. Error Mean
Var1: Role and Awareness	120	2.9833	1.14116	.10417
Var2: Personal Preparedness and Confidence	120	3.1313	1.06607	.09732
Var3: Organizational Response	120	3.2542	.99762	.09107
Var4: Resource Management	120	2.8633	1.12361	.10257
All	120	3.1103	.97479	.08899

One-Sample Test (Test Value = 3**)**

	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Role and Awareness	-.160-	119	.873	-.01667-	-.2229-	.1896
Personal Preparedness and Confidence	1.349	119	.180	.13125	-.0615-	.3240
Organizational Response	2.791	119	.006	.25417	.0738	.4345
Resource Management	-1.332-	119	.185	-.13667-	-.3398-	.0664
All	1.239	119	.218	.11029	-.0659-	.2865

The table above shows the results of a one-sample t-test, which is used to compare the mean of a sample to a known value. In this case, the known value is 3, which represents the neutral midpoint on the response scale.

The t-value is a measure of how far the sample mean is from the known value, in terms of standard errors. A larger t-value indicates that the sample mean is further from the known value. The degrees of freedom (df) is a measure of how much information is available in the sample. A larger df indicates that there is more information available.

The p-value is the probability of getting a t-value as large or larger than the one observed, if the null hypothesis is true. The null hypothesis is that the sample mean is equal to the known value. A smaller p-value indicates that it is less likely that the null hypothesis is true.

The mean difference is the difference between the sample mean and the known value. A positive mean difference indicates that the sample mean is larger than the known value. A negative mean difference indicates that the sample mean is smaller than the known value.

The 95% confidence interval of the difference is a range of values that is likely to contain the true mean difference. The lower bound of the confidence interval is the smallest value in the range, and the upper bound is the largest value in the range.

In this case, the results of the one-sample t-test show that the sample mean for Organizational Response is significantly higher than the known value of 3 (p = .006). This indicates that the respondents tend to agree with statements about organizational response effectiveness. The sample means for the other variables are not significantly different from the known value of 3.

Results

The survey data reveals several key findings:

Demographics: The majority of respondents were male (73.3%), aged between 31-39 years old (36.7%), and held a Bachelor's degree (40%). Most respondents originated from Arab Gulf countries (34.2%) and worked within EMS systems (50%). Notably, 87.5% received disaster management training, but only 72.5% considered their education adequate.

Correlations: Strong positive correlations were observed between all four key areas, indicating that strengths or weaknesses in one area tend to be associated with similar performance in other areas. Organizational Response and Personal Preparedness & Confidence showed the highest correlations (94% and 91% respectively), suggesting their critical role in overall response effectiveness.

Reliability: Cronbach's alpha coefficients confirmed the questionnaire's high reliability, with an overall score of 0.947 and individual variable scores exceeding the acceptable threshold of 0.6. This ensures the validity and consistency of the collected data.

Recommendations

Based on the analysis, several recommendations can be made to enhance disaster response effectiveness when multiple international organizations are involved:

- Strengthen communication and coordination: Establish clear protocols for communication and collaboration between international organizations and local authorities, ensuring all responders are aware of their roles and responsibilities.
- Invest in comprehensive training: Provide regular and comprehensive training for disaster response personnel, focusing on both technical skills and cross-cultural communication to ensure effective collaboration in diverse teams.
- Develop standardized resource management protocols: Implement clear and transparent mechanisms for needs assessment, resource allocation, and distribution, minimizing duplication of efforts and ensuring efficient utilization of available resources.
- Prioritize mental health and well-being: Implement programs and support systems to address the physical and psychological well-being of disaster response personnel, promoting resilience and long-term effectiveness.

By addressing these recommendations, international organizations can work collaboratively to ensure a more coordinated and effective response to future disasters, ultimately minimizing human suffering and facilitating recovery efforts.