

# IOSC 2024

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## Mental Health Impacts of Oil Spill Response: Insights from a Global Survey of Emergency Responders



International Oil Spill Conference

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INDREVENTURES



# IOSC Mental Health Survey

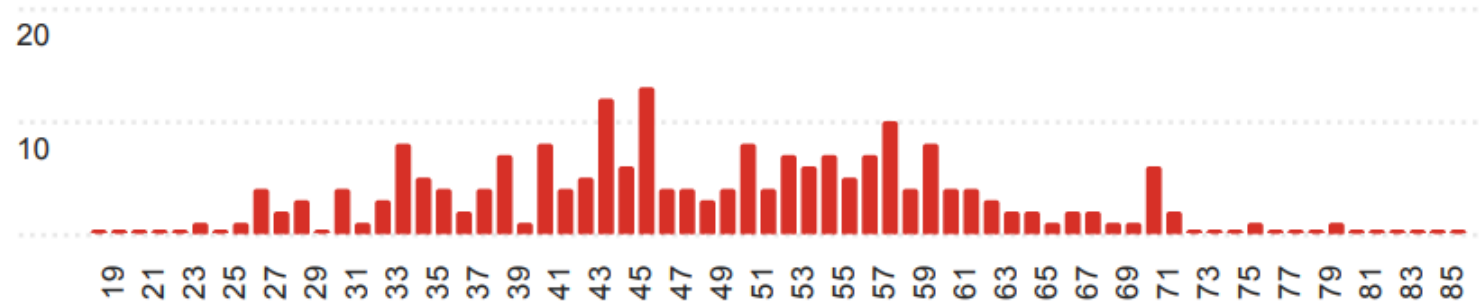
- **The first of its kind survey.**
- Project Team:
  - **Victoria Broje**, Ph.D – Principal Emergency Management Specialist – Environment. Shell 2024 International Oil Spill Conference Chair.
  - **Sara Jahnke**, Ph.D. Director of the Center for Fire, Rescue & EMS Health Research at NDRI Ventures USA, Inc. a not-for-profit research company
  - **Captain Frank Leto** – Retired Deputy Director, City of New York Fire Department, Counseling Service Unit (FDNY CSU).
  - **Nattinee Jitnarin**, Ph.D. NDRI Data Scientist
  - **Carrie Sutherland**, NDRI Project Coordinator
- Global distribution to more than **10,000 members of response community** (spill response and wildlife organizations, industry, academia, government, consultants, etc.)
- **272 responses** received



**IOSC 2024**

# Diversity of Survey Demographics

Q1 - What is your age in years?

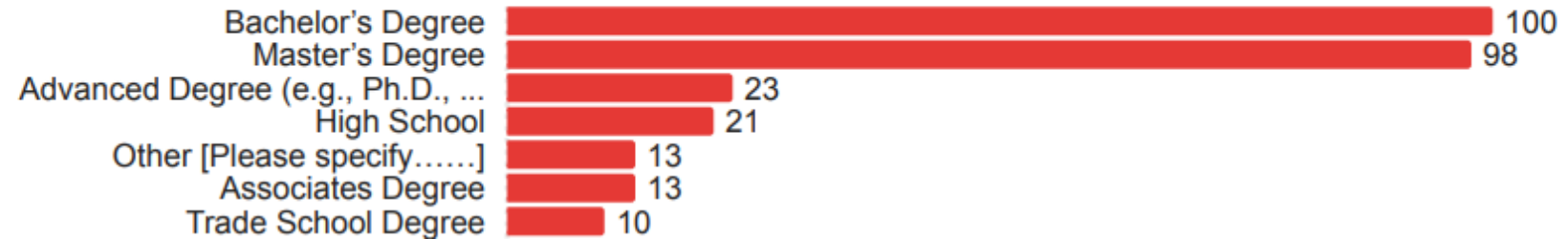


Q2 - What is your gender?



# Diversity of Survey Demographics

## Q4 - What is your level of education? - Selected Choice



## Q6 - Do you typically respond in more than one country?



# Diversity of Survey Demographics

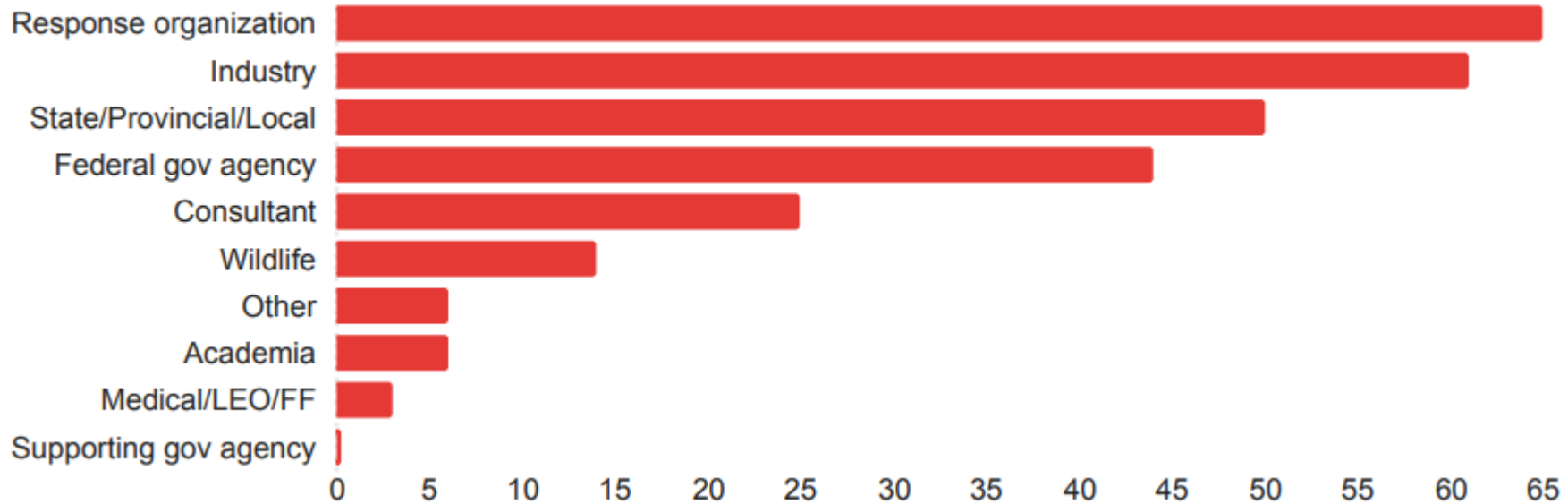
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	n (%)	
<b><u>Geographic Location</u></b>		
• North America	167 (71.06)	<b>130 responses from the US</b>
• Europe	23 (9.79)	
• Africa	15 (6.38)	
• South America	14 (5.96)	
• Oceania	9 (3.83)	
• Asia	7 (2.98)	



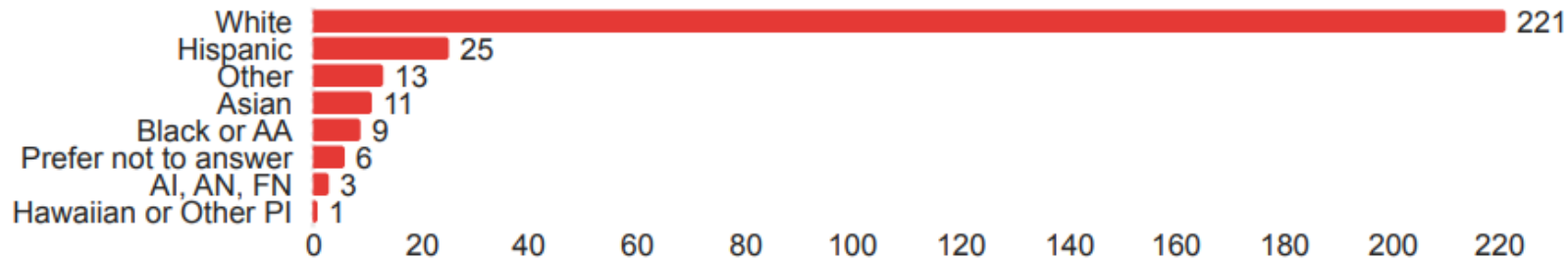
# Diversity of Survey Demographics

## Q7 - What is your organizational affiliation? - Selected Choice

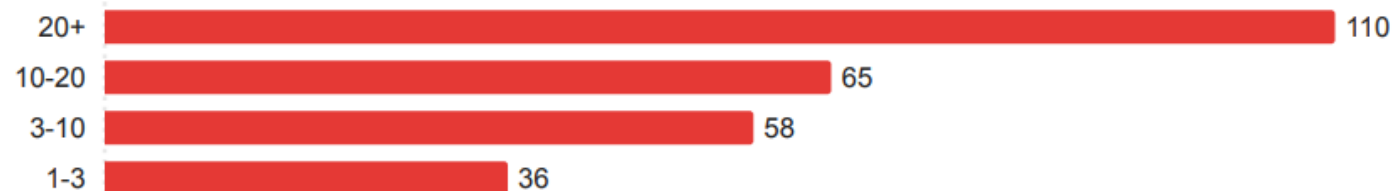


# Diversity of Survey Demographics

Q8 - Which one or more of the following would you say is your race? (Select all that apply) - Selected Choice

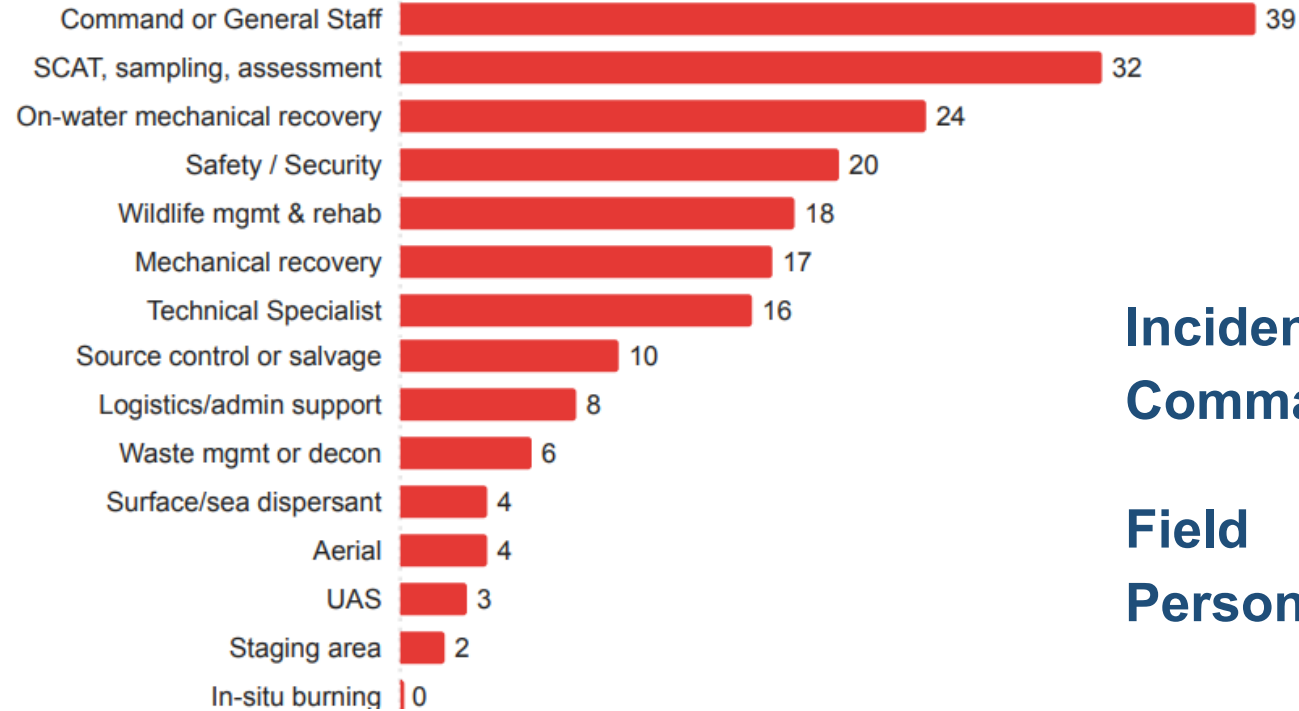


Q9 - How many years have you worked in emergency response?



# Diversity of Survey Demographics

Q11 - What is your primary role in emergency response? (Select one) -  
Selected Choice

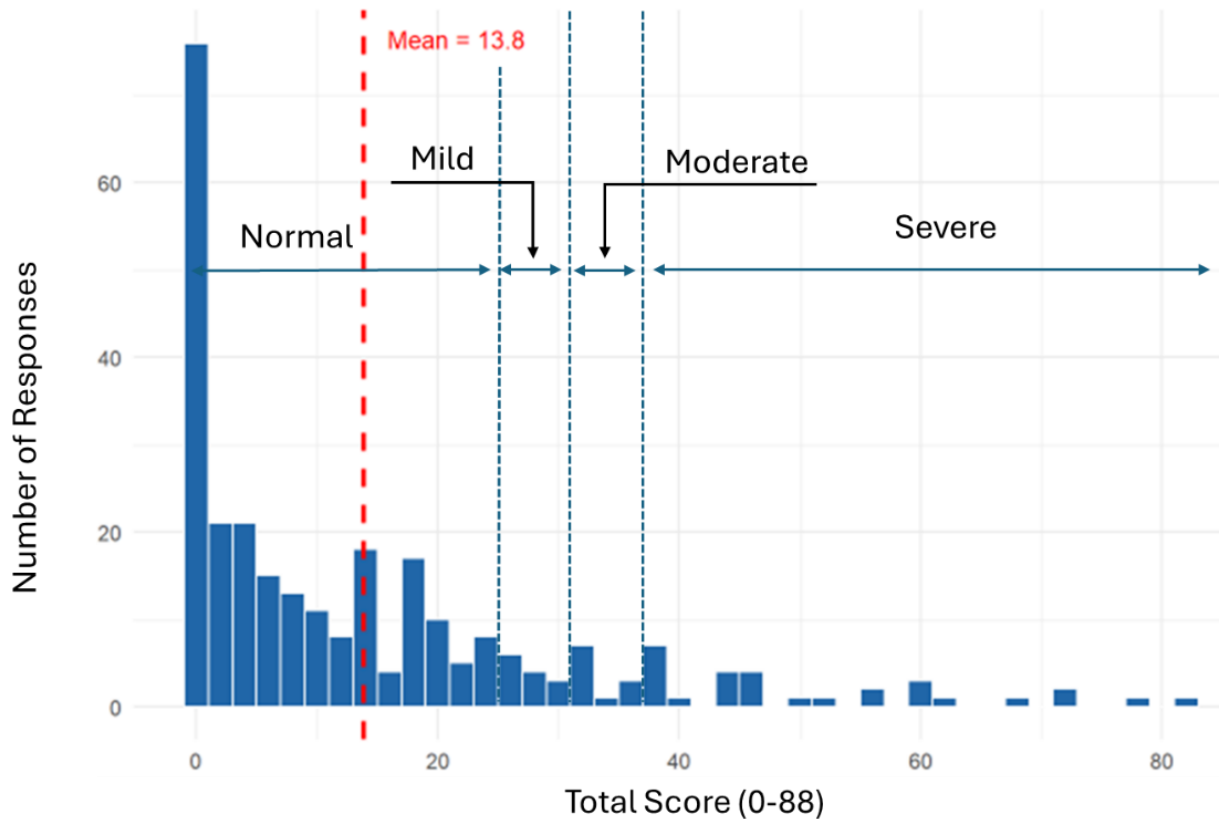


**Incident  
Command: 69 (26.54%)**

**Field  
Personnel: 191 (73.46%)**



# Distribution of PTSD Scores



- Total PTSD scores reported by survey respondents, based on the Impact of Event Scale-Revised (IES-R).
- Approximately **18% of respondents** reported PTSD symptoms in the mild to severe range:
  - 6.8% in the mild range (scores 24–32),
  - 3.6% in the moderate range (33–36),
  - 7.9% met the threshold for severe distress (37+).



# Top Operational Stressors

Stressor	Mean	SD	Median
Involved in injury or casualty	1.90	0.83	2
Worked longer than 2 weeks without time off	1.75	0.96	2
Interaction with concerned or angry public	1.71	0.84	2
Worked more than 10 hours per day	1.64	0.91	2
Stress from incident management	1.56	0.94	1
Lack of resources	1.56	0.97	1.5
Family stressors	1.55	0.93	1.5
Felt unsafe or asked to 'push the envelope'	1.54	0.92	1
Stress from parent company or organization	1.54	1.02	2
Worked night shifts	1.50	0.93	1
Had to stop working due to heat or cold	1.39	0.98	1

## Scale 0-3

- Not at all
- Very little
- Somewhat
- To a great extent



# Attributes of the Most Stressful Response

<b>Stressor</b>	<b>Count</b>
Worked more than 10 hours per day	147
Worked longer than 2 weeks without time off	114
Stress from incident management	112
Involved in injury or casualty	110
Smelled oil or chemicals	106
Family stressors	101
Interaction with concerned or angry public	97
Stress from parent company or organization	92
Physical strain	81
Lack of resources	81



# Potential Mitigation Strategies - Response Phase

Category	Mitigation strategy
<b>Physical Stressors</b>	The effect of these types of stressors could potentially be reduced by improving working environment and staffing strategies as well as decreasing direct exposure to pollutants when possible.
<b>Organizational Stressors</b>	The effect of these types of stressors could potentially be reduced by improving organizational processes and reinforcing Safety/Care culture under Incident Management System
<b>Psychological Stressors</b>	The effect of these types of stressors could potentially be reduced by integrating mental health professionals into Incident Management System



# Potential Mitigation Strategies – Response Phase

- Optimizing workload/schedules and living/working conditions
- Rest and relaxation resources (field and Command Post)
- On-site Peer-support
- Crisis intervention services and counselors
- Access to mental health resources (e.g. mental health apps)
- Mental health, team integration, cultural, and conflict resolution training



# Post-Deployment Challenges

Challenge	Mean	SD	Median
Physical symptoms after deployment	1.41	0.98	1
Difficulty adjusting back to normal life	1.34	1.02	1
Emotional struggles	0.87	0.98	1
Behavioral changes after deployment	0.71	0.87	0

## Scale 0-3

- Not at all
- Very little
- Somewhat
- To a great extent



# Desired Support – Post Response

- Post-deployment check-ins to assess mental and physical well-being
- Reduced workload during an adjustment period following the return to “day job”.
- Access to peer support groups or facilitated debriefings
- Professional mental health support
- Family support resources and education
- Educational resources on common post-response reactions and healthy coping strategies
- Recognition and closure activities, such as team acknowledgments or after-action reviews, to validate responders’ contributions and provide a sense of completion

Statement	Count
Trained peers to talk with	131
Follow-up support after deployment	114
On-scene rest, relaxation resources	111
Crisis Interventions (CISD)	94
Mental/behavioral health training	87



# Desired Support – Peace Time

- Incorporation of mental health activities into exercises
- Leadership training
- Mental health surveys within an organization
- Wellness programs
- Resilience training
- Development of response-specific materials and trainings

Statement	Count
Training for managers/leaders	141
Training on mental health and resilience	125
Health/wellness training	103
Access to mental health clinicians	96
Peer support program	94



# Summary

- Responders face both operational and psychosocial stressors, many of which persist post-deployment.
- Desire for mental health resources is high, particularly peer support, follow-up, and better working conditions.
- Responders emphasized the importance of leadership training and mental health resilience resources.
- There is an opportunity to provide mental health support to responders at minimal cost



**Questions?**

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