Occupational Health Safety Culture among Cadet Seafarers in the Philippines

Oscar Cristito L Rosete MD D/MIH
Introduction

- Maritime workplace

- Maritime standards, competencies, health and safety policies and practices

- Shipboard safety culture
Objectives

• To assess and compare the tanker and bulk shipboard safety culture
• To determine the unsafe work conditions/acts observed in tanker and bulk vessel types
• To determine the health injuries/accidents observed in tanker and bulk vessel types
Figure 1 Conceptual Framework

VESSEL TYPE
- Tanker
- Bulk

WORKERS ON BOARD
- Maritime Officers
- Seafarers

UNSAFE WORK CONDITIONS/ACTS

SHIPBOARD
- SAFETY CULTURE
  - communication
  - empowerment
  - feedback
  - mutual trust
  - problem identification
  - promotion of safety
  - responsiveness
  - safety awareness

HEALTH INJURIES/ACCIDENTS
Methodology

- **Cross sectional** research design
- **Prevalence** school based survey using a Likert scale
- **Key informant interviews** and **focus group discussion**
- **Chi square test** and **thematic analysis**
Results

Total of 116 respondents

101 cadet seafarers
59.41 % engine cadets
40.59 % deck cadets

19 cadet seafarers
7 maritime officers
5 ordinary seafarers
1 maritime administrator

9 cadet seafarers
2 maritime educators
Results

SHIPBOARD SAFETY CULTURE

• Safety on the vessel
• Routine practices/ acts of safety onboard the vessel ("nakasanayan")
• “The way we do safety onboard the vessel”
• Over-all performance
### Results

**SHIPBOARD SAFETY CULTURE**

**TANKER**

- Relationship with other crew onboard ("pakikitungo at pag-uugali")
- Importance of motivation and encouragement
- More than compliance
- "Getting involved"

**BULK**

- Practice of eliminating accidents
- Lessening/eliminating risks onboard
- Company policies
Results

Table 1
Respondents’ perception on shipboard safety factors on board *tanker* vessel types

<table>
<thead>
<tr>
<th>shipboard safety factor</th>
<th>agree</th>
<th>slightly agree</th>
<th>neutral</th>
<th>slightly disagree</th>
<th>disagree</th>
<th>don’t know</th>
</tr>
</thead>
<tbody>
<tr>
<td>communication</td>
<td>162</td>
<td>60</td>
<td>18</td>
<td>6</td>
<td>1</td>
<td>3</td>
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<tr>
<td>empowerment</td>
<td>182</td>
<td>62</td>
<td>3</td>
<td>2</td>
<td>0</td>
<td>1</td>
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<tr>
<td>feedback</td>
<td>175</td>
<td>62</td>
<td>12</td>
<td>0</td>
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<td>1</td>
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<tr>
<td>mutual trust</td>
<td>151</td>
<td>68</td>
<td>18</td>
<td>9</td>
<td>4</td>
<td>0</td>
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<tr>
<td>problem identification</td>
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<td>73</td>
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<td>1</td>
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<tr>
<td>promotion of safety</td>
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<td>61</td>
<td>23</td>
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<td>9</td>
<td>4</td>
</tr>
<tr>
<td>responsiveness</td>
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<td>21</td>
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<tr>
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<td>16</td>
<td>5</td>
<td>4</td>
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</table>
## Results

Table 2
Respondents’ perception on shipboard safety factors on board bulk vessel types

<table>
<thead>
<tr>
<th>shipboard safety factor</th>
<th>agree</th>
<th>slightly agree</th>
<th>neutral</th>
<th>slightly disagree</th>
<th>disagree</th>
<th>don’t know</th>
</tr>
</thead>
<tbody>
<tr>
<td>communication</td>
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<td>53</td>
<td>31</td>
<td>3</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>empowerment</td>
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<td>2</td>
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<tr>
<td>mutual trust</td>
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<td>68</td>
<td>24</td>
<td>11</td>
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<tr>
<td>problem identification</td>
<td>150</td>
<td>76</td>
<td>24</td>
<td>5</td>
<td>1</td>
<td>4</td>
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<tr>
<td>promotion of safety</td>
<td>158</td>
<td>58</td>
<td>19</td>
<td>5</td>
<td>9</td>
<td>6</td>
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<tr>
<td>responsiveness</td>
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<td>77</td>
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<td>9</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>safety awareness</td>
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<td>60</td>
<td>22</td>
<td>5</td>
<td>4</td>
<td>4</td>
</tr>
</tbody>
</table>
Figure 2 Comparison of all perceived safety factors between tanker and bulk vessel types
## Results

Table 3
Comparison of perceived safety factors between tanker and bulk vessel types using chi square @ p(≤0.05)

<table>
<thead>
<tr>
<th>Safety Factor</th>
<th>Chi Square</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communication</td>
<td>0.100831318&lt;sub&gt;ns&lt;/sub&gt;</td>
</tr>
<tr>
<td>Empowerment</td>
<td>0&lt;sub&gt;ns&lt;/sub&gt;</td>
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<tr>
<td>Feedback</td>
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</tr>
<tr>
<td>problem identification</td>
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</tr>
<tr>
<td>Promotion of safety</td>
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<tr>
<td>Responsiveness</td>
<td>0.614312781&lt;sub&gt;ns&lt;/sub&gt;</td>
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<tr>
<td>Safety awareness</td>
<td>0.806059115&lt;sub&gt;ns&lt;/sub&gt;</td>
</tr>
<tr>
<td>All eight safety factors</td>
<td>0&lt;sub&gt;ns&lt;/sub&gt;</td>
</tr>
</tbody>
</table>

*ns=non-significant
Results

UNSAFE Work Conditions/ Acts

**TANKER**
- Failure to use PPE
- Acts of carelessness

**BULK**
- Failure to use PPE
- Acts of carelessness
- Inappropriate policy
- Judgment error
- By-passing the procedure
- Cluttered deck
- Bad weather
- Performed task not included in the job order
- Under manned crew
Results

HEALTH Injuries/ Accidents

TANKER

• Hand injury
• Foreign body (eye)
• Cut/ struck from falling object
• Fall with abrasion of a leg
• Minor burns
• Minor cuts and blisters

BULK

• Burns/ non-electrical
• Bumped, fixed object
• Crashing incident
• Cuts

• DEATH
Conclusion

Tanker and bulk shipboard safety cultures among cadet seafarers yielded no significant difference,

despite more reported unsafe work conditions/ acts and more serious onboard health injuries/ accidents in bulk vessel types.
Recommendations

• Coordinate with the International Maritime Organization in identifying and accrediting regional maritime groups to monitor health and safety practices on board.

• To conduct series of dialogues with shipping companies.

• To modify and improve the shipboard safety culture survey questionnaire.

• To conduct similar studies on cadet seafarers including respondents from different maritime schools.

• To include all vessel types and to compare cadet seafarers with specific vessel type post-exposures with cadet seafarers who are currently on board specific vessel type.

• For the Philippine Merchant Marine Academy shipboard training, the integration of shipboard safety culture in their trainings/seminar to fortify shipboard safety culture in all vessel types.
Acknowledgement

My parents

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Superintendent, Philippine Merchant Marine Academy

2/O Gilbert Boleche

Training Manager, Eagle Star Management Corporation

American Bureau of Shipping, Inc.
THANK YOU!

(Maraming Salamat po !)