



Potential safety outcomes of communication difficulties in mixed nationality crews: A study of Greek and Norwegian vessels



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Together with:

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Introduction

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- Approximately two-thirds of the world's merchant fleets, are manned by a **mixed crew**, which may include two to three different nationalities
- On-board ships with mixed nationalities, **misunderstandings related to differences in language and culture** may lead to serious maritime incidents threatening the safety of the crew and cargo, as well as the protection of the environment
- In emergency situations with high cognitive demands it will be **difficult to communicate effectively and coherently** in a second language
- The extent to which mixed crews can develop the common shared understanding required to meet the International Maritime Organization's demand for an **effective safety culture on board** may be questioned



Objectives

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- International studies indicate the **importance of language misunderstandings** as a cause of unsafe situations in the maritime industry
- However, there are few studies providing systematic statistical analyses of **prevalence and influencing factors**
- The aims of the study are therefore to examine the **prevalence of unsafe situations** due to language misunderstandings on vessels with different degrees of mixed nationality crews, and the **factors influencing** this



Methodology

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- **Research Project** “Safety culture in private and professional transport: examining its influence on behaviors and implications for interventions”
- **Quantitative survey data** (n=367) with seafarers on different types of Greek and Norwegian vessels with different degrees of mixed nationality crews
- Respondents on **mix-nationality crews** are defined as crews where respondents state that at least 25% of the crew has a different nationality than themselves
- Additional **qualitative interviews** (15) with seafarers on different types of Greek and Norwegian cargo and passenger vessels with different degrees of mixed nationality crews

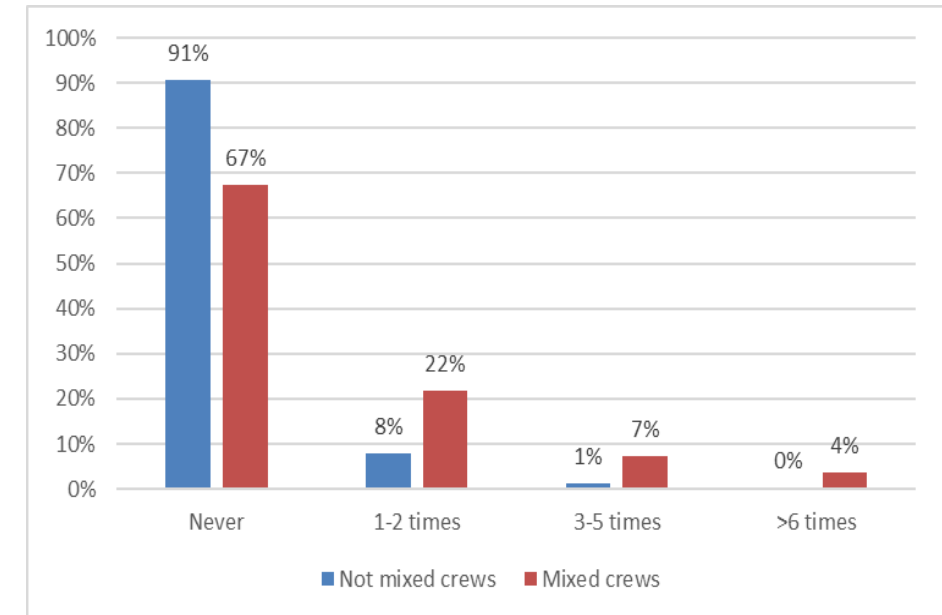


Survey Themes

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- **Background** questions, e.g. gender, nationality, age group, experience, employment status, vessel type and size, etc.
- Questions about:
 - ✓ **safety behaviors** (e.g. risk acceptance),
 - ✓ **working conditions**
 - ✓ **organisational** safety culture
 - ✓ **national** safety culture
 - ✓ **sector** safety focus



Respondents' experiences with unsafe situations because of language misunderstandings between different nationalities on board (for every 100 working days/nights on board)
Respondents from not mixed crews (N=306) vs mixed crews (N=55)



Results

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- One third of mixed crew members reported that they at least once or twice per 100 working days **experience unsafe situations** because of language misunderstandings, while the share was 9% in non-mixed crews
- Respondents who “sometimes **feel pressured to continue working**, even though safety may be threatened” are more likely to report of significantly fewer unsafe situations because of language misunderstandings.
- Seafarers working on **general cargo vessels** report of more unsafe situations because of language misunderstandings
- **Greek** respondents report of significantly fewer unsafe situations because of language misunderstandings
- The more **experience** a seafarer has, the more unsafe situations because of language misunderstandings he reports

Variable	p-value
Nationality (Norwegian =1, Greek 2)	-.115*
Safety compromising work pressure	.193***
Vessel type (Other=1, General cargo =2)	.112**
Vessel registry (National flag=1, FOC=2)	.018
Organisational safety culture	-.034
Nationalities on board (1-2=1, 3-5=2)	-.032
Mixed crew (Not mixed =1, Mixed=2)	.234***
Position (Other=1, Leading officer=2)	.075
Experience	.106**



Discussion

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- The present study provides a **quantification of dangerous situations** (anchored in an absolute reference point: per 100 days on-board) caused by language misunderstandings in mixed nationality crews versus non-mixed crews
- The most important variable significantly influencing respondents' experiences with unsafe situations because of language misunderstandings is that the **crew has a mixed nationality**
- The number of nationalities on board does not contribute as strongly to experiencing unsafe situations because of language misunderstandings as **the share of colleagues with a different nationality** than yourself
- Misunderstandings are more likely to happen when people who are **new to each other** communicate

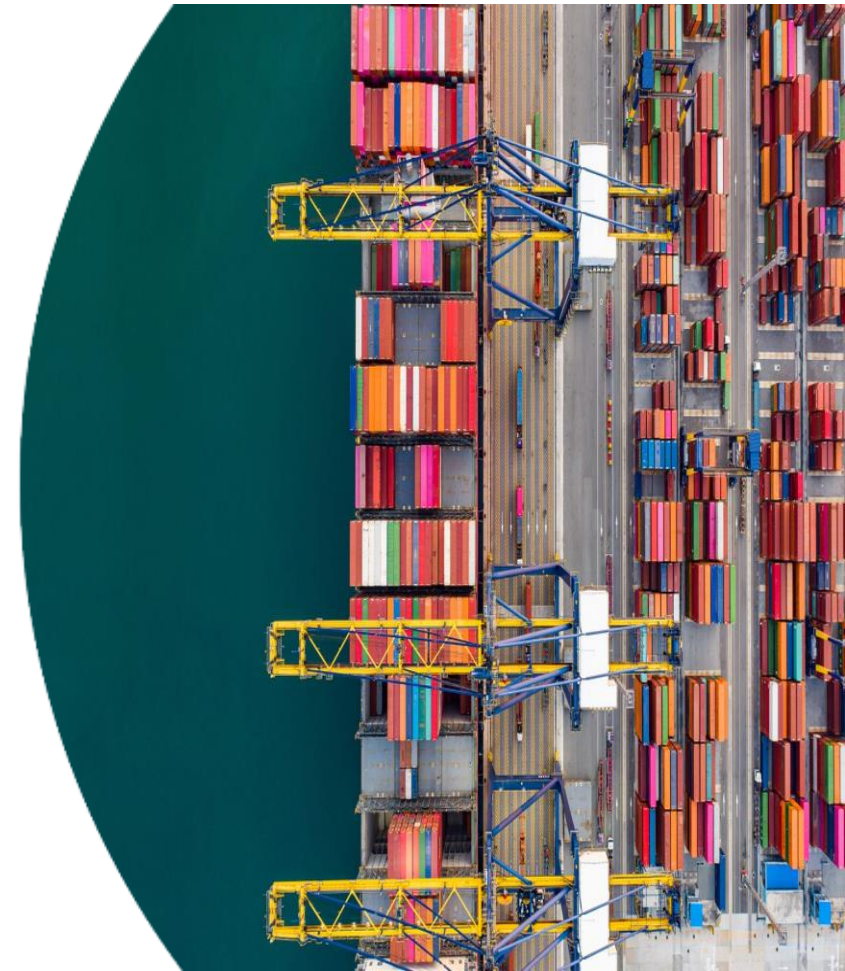


Conclusions

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- Respondents working on board mixed nationality vessels **experience far more unsafe situations** because of language misunderstandings between different nationalities on board
- Results are contingent on the **limited distribution** of national groups in the sample (i.e. Norwegian and Greek), and the sample of vessel registry types. If types of vessels with a higher share of mixed crews had been included, results would perhaps have been different. In addition, national samples differ when it comes to age groups (12% Norwegian vs 3% Greek respondents <26 years)
- An important issue for future research, is to **relate unsafe situations** because of language misunderstandings to different types of operations and situations





Thank you!

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