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Bridging social divides? Characteristics and antecedents of seafarers' personal support networks during the COVID-19 pandemic

Birgit Pauksztat & Michelle Grech

ErgoShip Conference

Esbjerg, Denmark, 3 November 2023



COVID19 Crew Repatriation Uncertainty Spark Deaths & Hunger Strikes!

By Mfame Editor - May 18, 2020

'We are very afraid': stranded cruise
ship's crew in limbo amid pandemic



Maersk Calls for Action as Stranded Seafarers Rise to 400,000

Reuters

Total Views: 333

September 25, 2020

As pandemic stretches on, concern for stranded
seafarers grows



Some workers have been stuck on cargo ships for up to 15 months, says inspector

Emma Smith - CBC News - Posted: Jul 23, 2020 11:55 AM EDT | Last Updated: July 23, 2020

Seafarers during the COVID-19 pandemic

They man the merchant ships that keep global trade flowing, but coronavirus restrictions mean thousands of seafarers are unable to return home. After months at sea, stress, fatigue and time away from loved ones is taking its toll.

'Prisoners at sea': stuck on
board cargo ships, crews
find their mental well-being
under threat

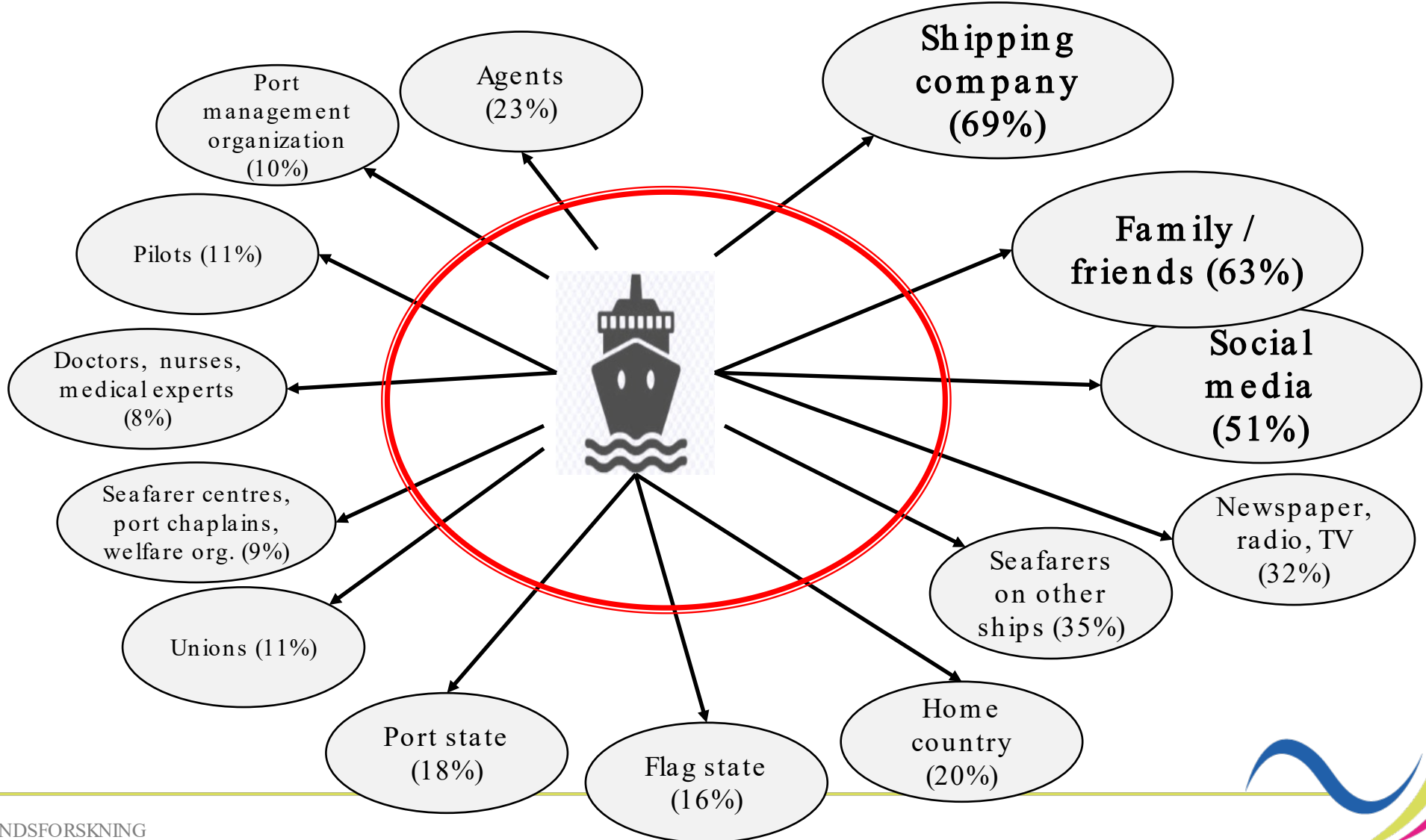
The Cruise Ship Suicides

Confined mostly to tiny cabins as the
pandemic unfolded, crew members
struggled to cope.

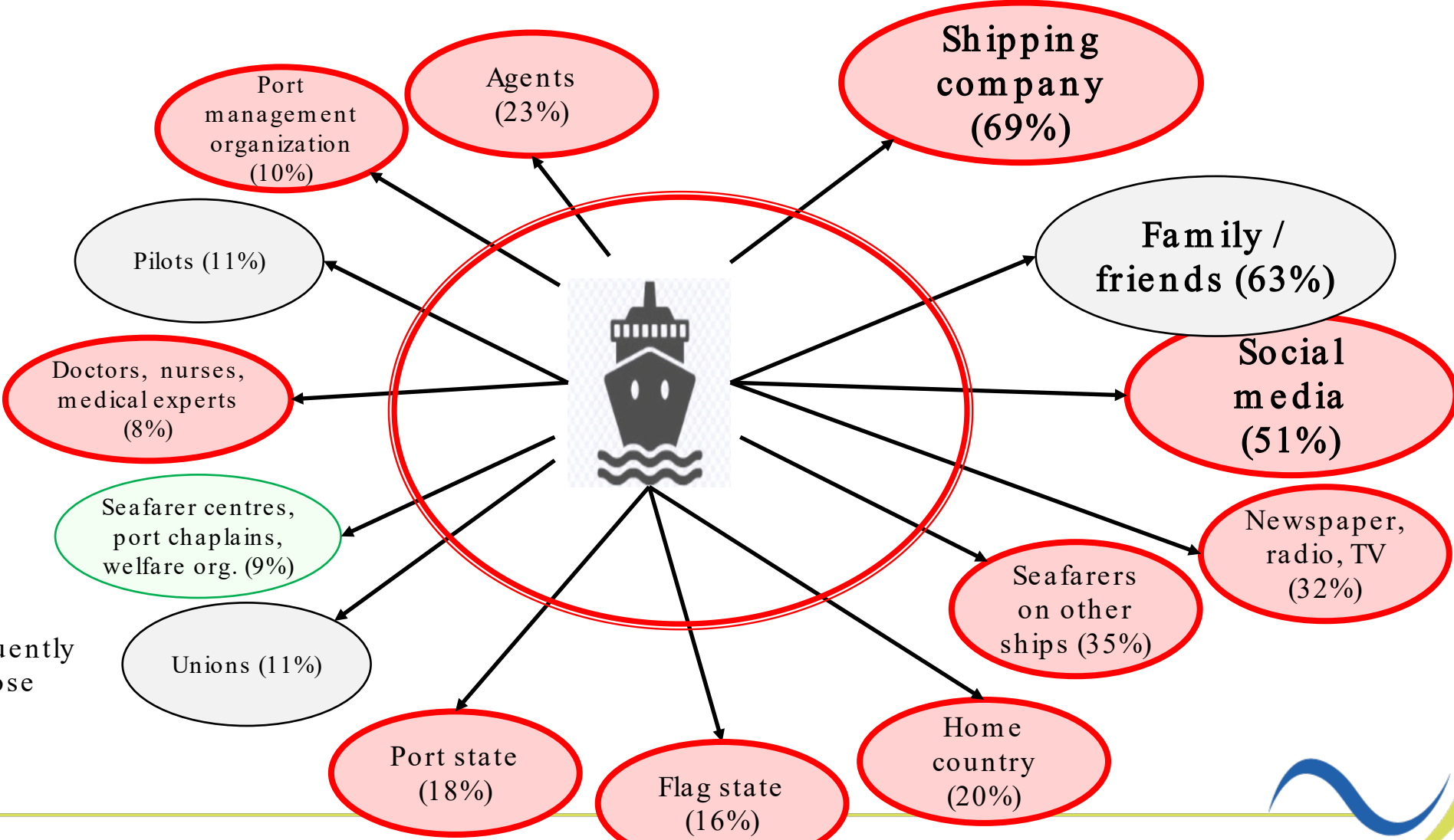
By Austin Carr



Sources of support during the pandemic



Sources of support during the pandemic



red = less frequently available to those without good internet access





Social support from co-workers

Importance of social support is well-established

- Physical & mental well-being (Cohen et al., 2000; Bavik et al., 2020; Pauksztat et al., 2022; Sampson & Ellis, 2021)
- Coping with everyday job demands (e.g., Ljung & Lützhöft, 2014; Pauksztat, 2023) and with crises such as COVID-19 pandemic (Pauksztat et al., 2022; Tang et al., 2022)





Social support from co-workers

Antecedents of social support less well understood

- general tendency towards homophily (McPherson et al., 2001; Ertug et al., 2022)
- qualitative studies on multinational crews: informal relations may be formed within (rather than across) subgroups (Knudsen, 2004; Sampson, 2013)

=> Limited availability of social support for seafarers?





Research questions

1. Do seafarers receive social support from fellow crew members, and if so what types of support?
2. Who provides support? (=> composition of support networks) – Focus on:
 - hierarchical level
 - nationality
3. How can hierarchical and nationality-based boundaries be overcome? => psychological safety and proficiency in English





Data collection & respondents

Data collected together with M Kitada and R B Jensen



- Online survey, July-September 2020



- Seafarers on board of international commercial vessels
- 437 respondents

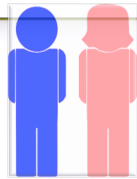


- 95.2% men
- 78.5% officers
- Nationality: 38.7 % Filipino
- Flag states: ca 40% Northern European countries





Respondents & vessel characteristics



437 seafarers

- 95.2% men
- On board 0-18 months (Mean = 4.3)



Age & experience

- 19 to 65 years old (Mean=40.4)
- 0 to 47 years at sea (Mean = 18.1)



Role

- 65.4% deck, 28.6% engine
- 78.5% officers



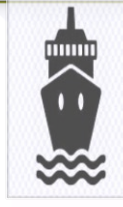
Ship types

- 23.6% container ships
- 22.0% oil tankers
- 17.4 % bulk carriers



Nationalities

- 38.7% Philippines
- 8.5% Sweden
- 8.0% Denmark, Germany
- 5.7% Ukraine



Flag States

- 14.9% Sweden 6.9% Norway
- 11.9% Denmark 5-6% Singapore,
- 9.6% Germany Marshall I., Malta
- 9.4% Liberia



Personal networks



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Please think of those who work on board this ship.

During the last 7 days, who has helped you, in any way, more than is required by their job?

For each person who has helped you: please check a box and write their initials (e.g., "J"; or other words such as "friend"/"bosun") below, so that you can remember who is who for the next few questions.

You can list **up to 5 people**. Please include **only individuals who work on board this ship**.

If you received help from less than 5 people: please leave empty the boxes and fields that you do not need.

- Person 1, initials:
- Person 2, initials:
- Person 3, initials:
- Person 4, initials:
- Person 5, initials:
- Nobody (=> *please continue on the next page*)



Characteristics of those named as providing support



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Position on board

What is their position on board?

	Master	Chief officer	Chief engineer	Officer (deck)	Officer (engine)	Bosun/ boatswain	Rating (deck)	Rating (engine)	Cook steward/ galley staff	Other crew member	Not a crew member/ not applicable/ don't know
Person 1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Person 2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Same or different nationality

What is their nationality?

	Same nationality as myself	Different nationality	Don't know/ not applicable
Person 1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Person 2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please think of Person 1 (i.e. the first person you mentioned above).

Type of support provided

How did Person 1 help you?





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What kind of support?



What kind of support? (Person 1)



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Coding scheme based on four types of support from previous research (Bavik et al., 2020; Wills & Shinar, 2000)

- **Instrumental (39%)**
 - work-related, e.g. "Helping me with my workload"
 - private, e.g. "cut my hair"
- **Informational (19%)**
 - work related information/advice, e.g. "Teach about some stuff in work", "constructive suggestions"
 - re pandemic, e.g. "Share the latest news about covid-19, how to protect"



What kind of support? (Person 1)



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- **Companionship (24%)**

- "Every day me met after work talked about other things than ships, and pandemia"
- "Social life. Playing Pingpong, watching movie, talking"

- **Psychological or emotional (27%)**

- "Provided emotional support when I received a message that my brother had died"
- "religiously asking if im still ok"
- "Couragement and hope for life", "being positive thinker", "Keeping up the good humor"

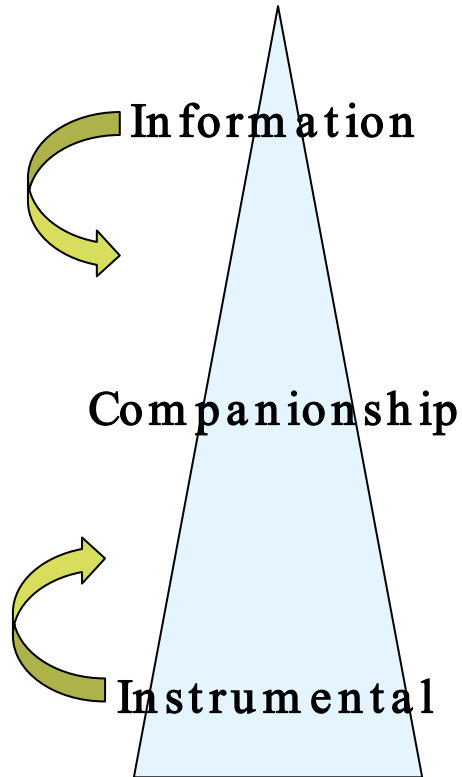


What kind of support? (Person 1)



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- Some types of support were associated with the helper's **hierarchical level**:
 - higher: *more* likely to provide information, *less* likely to provide companionship
 - same: *more* likely to provide companionship, *less* likely to provide information
 - lower: *more* likely to provide instrumental support, *less* likely to provide information
- Whether help-recipient and helper have the same or different **nationality** was not associated with type of support





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Who provides support?





Number of individuals named as providing support

Number of alters	<i>Frequency</i>	<i>Percentage</i>
0	162	37.1
1	49	11.2
2	46	10.5
3	46	10.5
4	26	5.9
5	108	24.7
Total	437	100.0

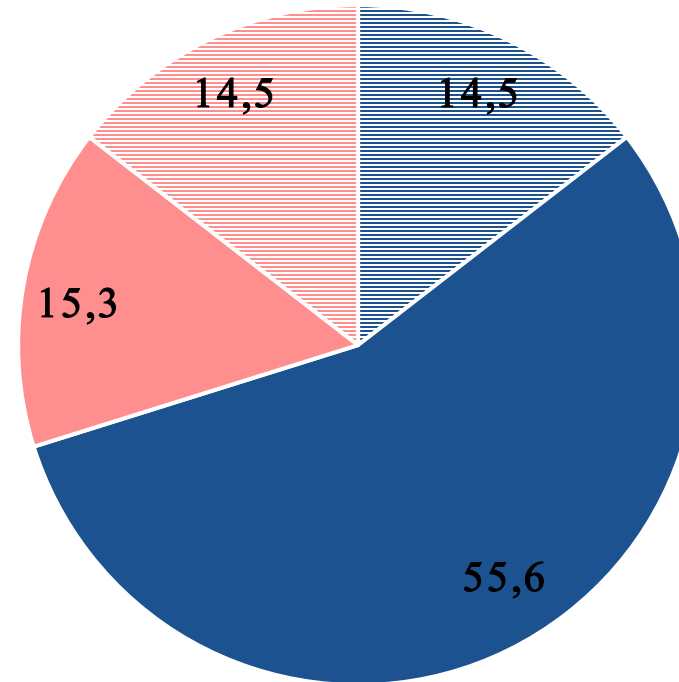


Composition of support networks



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Command team =
master, chief engineer,
chief officer

- Alter in command team, same nationality
- Alter not in command team, same nationality
- Alter not in command team, different nationality
- Alter in command team, different nationality





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A tendency towards preference for interacting with similar others (homophily)?



	No vs. at least one alter (<i>binary logistic regression</i>)	Number of alter (<i>OLS regression</i>)	
Intercept	-2.546 (1.252)	-1.159 (1.059)	1.557 (1.045)
<i>Ship characteristics</i>			
Crew size	-0.204 (0.125)	.042 (0.105)	0.163 (0.104)
Percentage of past co-workers	0.010 (0.062)	0.033 (0.052)	0.031 (0.050)
Workload	-0.031 (0.109)	-0.049 (0.093)	-0.121 (0.093)
Impact of COVID-19	0.253* (0.100)	0.203* (0.084)	0.066 (0.082)
<i>Ego's characteristics</i>			
Experience at sea	-0.026* (0.012)	-0.015 (0.011)	-0.001 (0.011)
Expected length of contract	0.238* (0.093)	0.292*** (0.080)	0.250** (0.079)
<i>Key variables of interest</i>			
Hierarchical level	-0.229* (0.102)	-0.187* (0.083)	-0.002 (0.084)
Percentage of co-nationals	0.182** (0.059)	0.171*** (0.049)	0.067 (0.047)
Psych safety	0.298** (0.097)	0.352*** (0.081)	0.275*** (0.085)
English proficiency	0.193 (0.136)	-0.053 (0.113)	-0.326** (0.113)
R ²		0.171	0.172
F		8.810	5.272
-2LL	514.250		
Nagelkerke	0.181		
n	437	437	265

Note. Results of OLS regression with number of alter as dependent variable, and results of binary logistic regression for whether no vs. one or more alter were mentioned.



	Different nationality, <u>not</u> in command team	Same nationality, in command team	Different nationality, in command team
Intercept	-2.001 (0.173)	-1.439 (0.120)	-1.588 (0.136)
<i>Ship characteristics</i>			
Crew size	-0.259 (0.139)	-0.046 (0.126)	-0.153 (0.126)
Percentage of past co-workers	-0.163* (0.072)	-0.022 (0.060)	0.000 (0.063)
Workload	-0.130 (0.130)	0.273* (0.116)	-0.280* (0.124)
Impact of COVID-19	-0.034 (0.108)	-0.108 (0.096)	-0.057 (0.097)
<i>Ego's characteristics</i>			
Experience at sea	-0.015 (0.014)	-0.003 (0.013)	0.013 (0.013)
Expected length of contract	-0.377*** (0.102)	-0.125 (0.097)	0.003 (0.101)
Number of alter	0.104 (0.093)	-0.235** (0.087)	-0.239** (0.083)
<i>Main variables of interest</i>			
Hierarchical level	0.435*** (0.115)	0.250* (0.106)	0.203 (0.105)
Percentage of co-nationals	-0.852*** (0.080)	0.024 (0.062)	-0.600*** (0.067)
Psychological safety	-0.047 (0.117)	0.450*** (0.113)	0.313** (0.112)
English proficiency	0.238 (0.163)	0.000 (0.135)	0.383* (0.152)
σ^2_{v0} [Level 2 variance]	0.470 (0.240)		
σ^2_{v1} [Level 1 variance]	0.325 (0.230)		
σ^2_{v2} [multinomial variance]	0.434 (0.227)		
n	2664		

Multilevel
multinomial logistic
regression



Findings



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Higher percentage of co-nationals on board:

- larger network size: more likely to name at least one person
- composition: less likely that those named are of different nationality

Ego is at higher hierarchical level

- smaller networks: less likely to name at least one person
- Characteristics of those named as providing support:
 - members of command team with same nationality
 - different nationality outside of command team





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Overcoming subgroup divisions?



	No vs. at least one alter (<i>binary logistic regression</i>)	Number of alter (<i>OLS regression</i>)	
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n	2664		

Multilevel
multinomial logistic
regression



Psychological safety

- network size: more likely to name at least one person & more than one person
- composition: more likely to name “supporters” in the command team

Ego's proficiency in English

- network size:
 - no effect on naming at least one person
 - less likely to name more than one person (being more selective?)
- composition: more likely to name persons who are of different nationality and in the command team





Practical implications

- Social support from fellow crew members is important
- Psychological safety (org. culture) seems even more important than English proficiency in overcoming hierarchical barriers
- Companies should foster an organizational culture characterized by psychological safety in order to promote social support

Future research

- No association between nationality and type of support?
- Who provides psychological support? (exceptional during pandemic only, or increasingly seen as part of senior officers' role?)
- How to overcome nationality-based boundaries?





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Thank you!

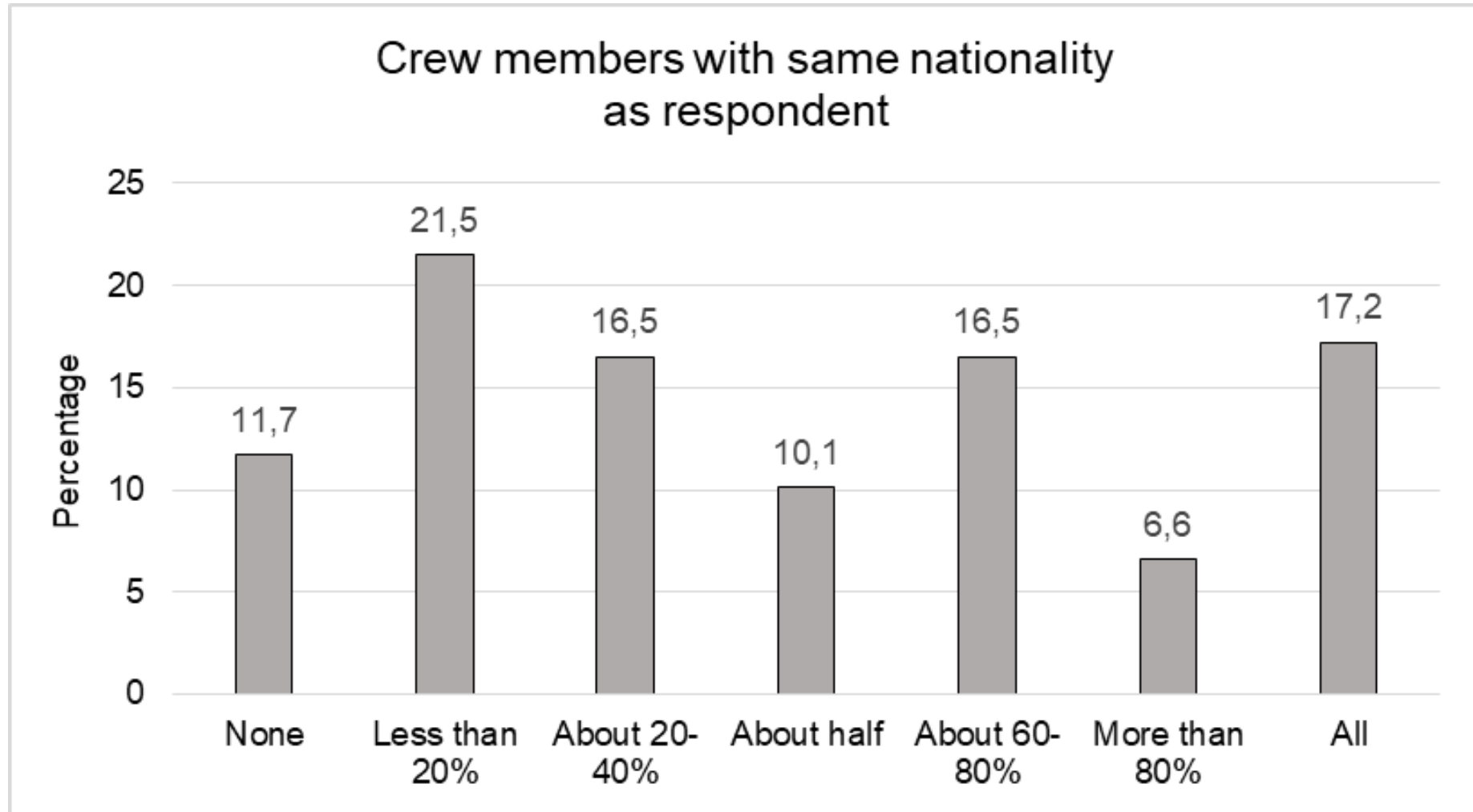
Questions?

Contact

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Norway

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Composition of support networks

Characteristics of alter	Frequency	Percentage
Alter not in command team, same nationality	494	55.6
Alter not in command team, different nationality	136	15.3
Alter in command team, same nationality	129	14.5
Alter in command team, different nationality	129	14.5
Total	888	100.0

Note. Data for 888 alters nested in 265 egos.

Command team = master, chief engineer, chief officer





Psychological safety
(adapted from Edmondson, 1999)

	Strongly disagree	Disagree	Somewhat disagree	Neither disagree nor agree	Somewhat agree	Agree	Strongly agree	Don't know
If someone makes a mistake, he/she is blamed for it.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is safe to bring up problems and tough issues.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
People would be afraid to express a different opinion.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is difficult to ask others on board for help.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Proficiency in English

	Not at all	A little	Can make myself understood	Well	Very well	Fluently (like a native speaker)	Don't know
How well do you speak English?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>





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(extra info / different sample)



Perceived support



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Perceived instrumental support

	Strongly disagree	Disagree	Somewhat disagree	Neither disagree nor agree	Somewhat agree	Agree	Strongly agree	Don't know
When I need help from other crew members, I get it.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I can rely on other crew members when things get stressful.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Perceived emotional support

When someone on this ship is sad, worried or in a bad mood, other crew members ...

	Strongly disagree	Disagree	Somewhat disagree	Neither disagree nor agree	Somewhat agree	Agree	Strongly agree	Don't know
... cheer him/her up.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... encourage him/her to talk about it.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... point out positive aspects of the situation to him/her.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... get him/her to think about something else.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



Perceived support



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