

# ASPECTOS DE SALUD Y PSICOSOCIALES EN LA PESCA EN ESPAÑA

## RASGOS DIFERENCIALES ALTURA-BAJURA

Aspects sanitaires et psycho-sociaux de la pêche en Espagne,  
risques comparés en pêche hauturière ou côtière  
Health and psycho-social aspects of Spanish fisheries,  
risk in coastal or high sea fishing

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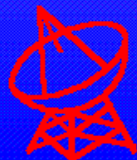
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España / Espagne / Spain



# Maritime Health Programme Structure in Spain

## ESTRUCTURA DEL PROGRAMA DE SANIDAD MARITIMA



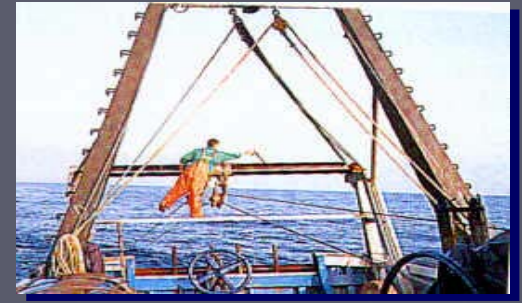
# Introduction:

- ▶ Las características psicosociales de la pesca de **altura y bajura** son bastante diferentes en cuanto al **tiempo de contacto con la población en tierra**.
- ▶ Différences psychosociales à la pêche hauturière / côtière # relatives au temps de contacte en terre
- ▶ Psycho-social differences in coastal / deep sea fishing # time in contact on shore

# *Identificación / Prevención de Riesgos en la pesca:*

Risques à la pêche: Identif / Prev

Fishing risks: Identification / Prev



- ▶ Ergonomic R. físicos: vibración, ventilación, ruido
- ▶ Hygiene on Board R. biologicals: water, food...
- ▶ Medical Exams Health surveillance, compulsory in Spain, ILO C.113; CONTACT POINT
- ▶ **Welfare & Social aspect: occupational & environmental** (Stress, fatigue... psychosocial)
- ▶ Safety – Survival: Protection ...
- ▶ Training - Prevention (Health education, risk prevention culture...)

# Factores de riesgo a bordo

## Risques à bord / Risks on board

- + Physical Environment (noise, vibrations,...).
  - + Tasks content (isolation, monotony,...).
  - + Organisation of working time (tours of duty, work rhythm,...).
  - + Environmental organisation (hierarchal relations,...).
  - + Staff management (work stability, wage,...).
  - + Interpersonal relations (cohesion, group communication,...).
  - + Work-fqmilily relations (family pressure, ...).
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# Factores psicosociales

## Facteurs psychosociaux

## Psychosocial factors

# FISHING INDUSTRY

## Conventions OIT/ ILO / BIT

- ▶ C 112. Minimum Age (1959)
- ▶ C 113. Medical Fitness Examination
- ▶ C 114. Enrolment
- ▶ C 125. Competence Certificates (1966)
- ▶ C 126. Crew Accommodation

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R 7. Working time (1920)

R 126. Professional training (1966)

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Tripartite Meetings – 1999 – 2003 – 2004 ...

2005 Super convention not approved



# Problematic Aspects:

- ▶ Normativa: Tamaño de los buques de pesca # normativa Directivas Europeas  $\geq 24$  ; 15 – 18 m. length < ?
- ▶ # Normative selon la taille du bateau
- ▶ # Rules & Regulations according the size of the ship



# IMHA Workshops

International Maritime Health Association

Fishing Industry: S. Fdo - Cádiz-  
(Spain), 2002

Psychosocial aspects: Riga  
(Letonia), 2004





# Objectives:

- ▶ Comparar los rasgos # entre 2 estudios de estos grupos en mercantes y pescadores de altura del norte de España (n=405, rep.n=56) en el que se realizó un estudio de calidad de vida y en un grupo del sur pesca de bajura (n=247) en el que se analizarón además las condiciones de seguridad (SEGUMAR).
- ▶ Comparer 2 études (N/S): qualité de vie à la pêche hauturière / SEGUMAR (Santé et Sécurité) en P. côtière
- ▶ To compare 2 studies (North/South Spain): quality of life in deep sea / SEGUMAR (Health & Safety) in coastal fishing

# Methodology:

- ▶ Repeated Measures, Psychometric tests; quality life profile in chronics (82 items)
- ▶ Questionnaires about safety, health and psychosocial factors by conglomerates



# Results: CV per sexe à terre / QL by sex on shore

"Evaluación de la Calidad de Vida en los Trabajadores del Mar".

**PUNTUACIONES DE CVRS CUANDO ESTABAN EN TIERRA (N=405).**

Según Sexo.

	Males (n = 376)		Females (n = 18)		t	Statistical Signification
	mean	SD	mean	SD		
Symptoms	3.76	0.33	3.76	0.19	0.03	NS
I. Physical Capacity	2.89	0.62	2.93	0.50	0.24	NS
II. Psychological Function	2.66	0.64	2.56	0.87	0.45	NS
III. Positive Mood	2.33	0.69	2.22	3.10	0.45	NS
IV. Negative Mood	3.30	0.62	3.36	0.52	0.47	NS
<b>V. Social Function</b>	<b>2.46</b>	<b>0.76</b>	<b>2.29</b>	<b>1.09</b>	<b>0.64</b>	<b>*</b>
VI. Social welfare	2.85	0.68	2.91	0.74	0.33	NS

**"Evaluación de la Calidad de Vida en los Trabajadores del Mar".  
PUNTUACIONES DE CVRS CUANDO ESTABAN EN TIERRA  
(N=405).**

Toda la población. Tous CV à terre / All fishermen QL on shore

	mean	SD	Mínimum	Máximum
<u>Simptoms</u>	<u>3.76</u>	<u>0.32</u>	<u>1.75</u>	<u>5</u>
<u>I. Physical Capacity</u>	<u>2.90</u>	<u>0.61</u>	<u>0.62</u>	<u>4</u>
<u>II. Psychological Function</u>	<u>2.66</u>	<u>0.64</u>	<u>0</u>	<u>4</u>
<u>III. Positive Mood</u>	<u>2.32</u>	<u>0.70</u>	<u>0</u>	<u>4</u>
<u>IV. Negativo Mood</u>	<u>3.31</u>	<u>0.62</u>	<u>0.37</u>	<u>4</u>
<u>V. Social Function</u>	<u>2.45</u>	<u>0.78</u>	<u>0</u>	<u>4</u>
<u>VI. Social welfare</u>	<u>2.85</u>	<u>0.69</u>	<u>0.20</u>	<u>4</u>

# "Evaluación de la Calidad de Vida en los Trabajadores del Mar".

## RESULTADOS DE LAS MEDICIONES DE CVRS REPETIDAS EN LA

**MAR** . CV measures repetées: vacances, après 2 et 4 semaines d'embarquement / OL repeated measures: holidays, after 2 & 4 months on board

### Comparación de medias.

	Points on shore		Points after 2 month on board		Points after 4 month on board	
	mean	SD	mean	SD	mean	SD
Simptoms	3.78	0.27	3.68	0.45	3.68	0.41
I. Physical Capacity	3.05	0.56	2.82	0.71	2.79	0.63
II. Psychological Function	2.87	0.54	2.59	0.60	2.52	0.60
III. Positive mood	2.44	0.68	2.35	0.70	2.24	0.64
IV. Negative mood	3.25	0.66	3.20	0.70	3.09	0.77
V. Social function	2.71	0.61	2.40	0.73	2.24	0.76
VI. Social welfare	3.10	0.56	2.61	0.74	2.62	0.71
	(n=56)		(n=56)		(n=49)	

## "Evaluación de la Calidad de Vida en los Trabajadores del Mar".

CV changes / QL changes during the time on board: better, =; worst

### RESULTADOS DE LAS MEDICIONES DE CVRS REPETIDAS EN LA MAR.

Sujetos que mejoran, igualan o empeoran\* su CVRS en las diferentes escalas.

	Compared on shore & after 2 months on board			Compared on shore & after 4 months on board			Compared after 2 months an after 4 months		
	better	worst	=	better	worst	=	better	worst	=
I. Physical Capacity	5	8	43	5	16	28	3	4	42
II. Psychological Function	5	20	31	2	19	28	3	5	41
III. Positive mood	4	9	43	5	12	32	2	5	42
IV. Negative mood	7	12	37	4	14	31	3	5	41
V. Social Function	5	13	38	1	14	34	3	4	42
VI. Social welfare	3	19	34	2	20	27	4	3	42
	(n=56)			(n=49)			(n=49)		

"Evaluación de la Calidad de Vida en los Trabajadores del Mar".

**RESULTADOS DE LAS MEDICIONES DE CVRS REPETIDAS EN LA MAR . CV**

changes / QL changes; statistic signification

Evolución del grupo a lo largo del tiempo.

	Compared on shore & after 2 months on board		Compared on shore & after 4 months on board		Compared after 2 months an after 4 months	
	t	(p)	t	(p)	t	(p)
I. Physical Capacity	- 2,45	**	- 3,08	***	- 0,15	NS
II. Psychological Function	- 3,43	***	- 4,94	***	- 0,84	NS
III. Positive mood	- 1,02	NS	- 2,29	*	- 2,07	*
IV. Negative mood	- 0,85	NS	- 2,31	*	- 1,00	NS
V. Social Function	- 2,97	***	- 4,74	***	- 1,83	*
VI. Social welfare	- 4,44	***	- 4,10	***	- 0,31	NS
	(N=56)		(N=56)		(N=49)	

# SEGUMAR

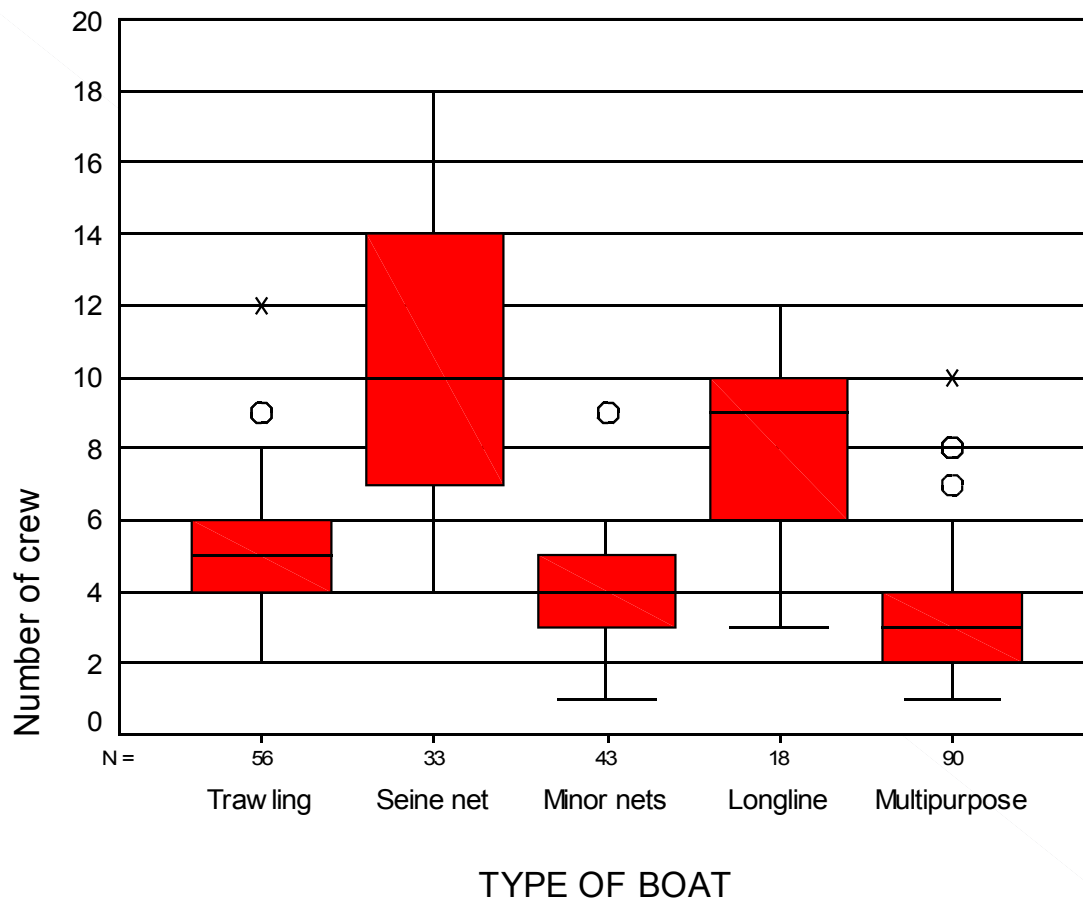
- ▶ Most of Andalusian coastal fleet are < 20 GRT; mean age 20 years ( $\pm$  1983). Mean length 12.59 m and mean beam 3,96 m. The mean number of crew is 5 per vessel. Mean age 40
- ▶ Analysed factors were morbidity (87 % with pathology, specially digestive, muskuloesqueletic qnd respitqtory problems); use of medicines (20 % on board: antiacids, analgesics; antibiotics); live style (60 % smokers, 6.5 other drugs) and other factors like fatigue (eyes), 76% have suffered an accident during his life & 43 % sickleave.



# Age, duties on board and fishing modalities

DUTIES ON BOARD	N	Percents	Age		Navigation experience	
			Mean	SD.	IC95% (years)	
Deckhand / Marinero	66	26,8	38,15	13,61	34,8	41,4
Mechanic / Mecanico	78	31,7	40,19	10,60	37,8	42,5
Skipper / Patron	99	40,2	41,88	10,75	39,7	44,0
Others/ Otros	3	1,2	34,66	6,50	18,5	50,8
<b>Total</b>	<b>246</b>	<b>100,0</b>	<b>40,26</b>	<b>11,56</b>	<b>38,8</b>	<b>41,7</b>

FISHING MODALITIES	N	Percents	Age		Age	
			Mean	SD	IC95%	
Trawler / Arrastre	58	23,5	42,68	11,66	39,6	45,7
Purse seiners / Cerco	33	13,4	42,39	11,91	38,1	46,6
Craft fishing						
Small scale	44	17,8	40,70	13,57	36,5	44,8
Multipurpose	94	38,1	38,23	10,41	33,7	43,4
Longline / Palangre	18	7,3	38,55	9,75	36,1	40,3
<b>Total</b>	<b>247</b>	<b>100,0</b>	<b>40,29</b>	<b>11,56</b>	<b>38,8</b>	<b>41,7</b>



## Crew members per ship

	N	Mean	Mean IC 95%	
Trawlers / Arrastre	56	5,30	4,83	5,77
Purse seiners / Cerco	33	10,30	9,00	11,60
Artisanal fishing techniques				
Small scales	43	3,88	3,34	4,41
Multipurpose	90	3,42	3,06	3,78
Longline / Palangre	18	8,16	6,98	9,35
<b>Total</b>	<b>240</b>	<b>5,24</b>	<b>4,83</b>	<b>5,65</b>

# Morbidity

Diseases or medical conditions	Fishermen	
	N	( % )
Muscle-skeletal	72	(29,1%)
High Respiratory Pathways	35	(14,1%)
Low Respiratory Pathways	42	(17,0%)
→ Digestive conditions	25	(10,1%)
High Blood Pressure	25	(10,1%)
Diabetes Mellitus and/or Hyperglycemia	16	( 6,4%)
→ Hearing	14	( 5,6%)
→ Kidney and Urinary system	14	( 5,6%)
Heart (including coronary disease)	6	( 2,4%)
Mental or “nervous” problems	6	( 2,4%)
TIA	1	( 0,4%)
Sexual transmitted disease (STD)	2	( 0,8%)
Infectious diseases (other)	2	( 0,8%)
Ophthalmologic and ocular problems	94	(38,0%)
Others	27	(10,9%)

# USE OF MEDICINES ashore

Medicines	N. of workers	Percents
Analgesic/anti-inflammatory - Antiinflamatorios	136	55,0
Antibiotics - Antibióticos	22	8,9
Antacid - Antiácidos	15	6,0
Anti-hypertensive - Antihipertensivos	13	5,2
Drugs for cold - Anticatarrales	10	4,0
Hypnotic / sedative / anxiolytic - Hipnóticos	5	2,0
Antidepressive - Antidepresivos	3	1,2
Insulina – Insulina	4	1,6
Oral Antidiabetes drugs - Antidiabéticos orales	2	0,8
Hypolipemic - Hipolipemiantes	2	0,8
Hypouricemics – Uricosuricos	1	0,4
Others - Otros	35	14,1

# TOBACCO & DRUGS

	<b>N</b>	<b>% valid</b>	<b>% Cumulative</b>	<b>Nº CIG/D</b>
Non smokers	56	22,7	22,7	
Ex-smokers	42	17,0	39,7	34,24 ± 22
Smokers	149	60,3	100,0	27,60 ± 16
Total	247	100,0		

<b>DRUG USE. LAST WEEK</b>	<b>Days</b>	<b>Frequency</b>	<b>Percents</b>	<b>Valid percents</b>	<b>Cumulative percents</b>
	<b>0</b>	212	85,8	91,0	91,0
	<b>1</b>	2	0,8	0,9	91,8
	<b>2</b>	3	1,2	1,3	93,1
	<b>5</b>	1	0,4	0,4	93,6
	<b>7</b>	15	6,1	6,4	100,0
	<b>Total</b>	233	94,3	100,0	
No data		14	5,7		
Total		247	100,0		

# Deterioration of health by fishing types of vessels

	Deterioration of health		Total
	No	Yes	
Trawlers / Arrastre	17 (36,2%)	30 (63,8%)	47
Purse seiners / Cerco	6 (25,0%)	18 (75,0%)	24
Artisanal fishing techniques			
Small scales	19 (43,2%)	25 (56,8%)	44
Multipurpose	15 (18,8%)	65 (81,3%)	80
Longline / Palangre	3 (16,7%)	15 (83,3%)	18

5,7% (N=14) of respondents chose not to answer this question. P=0,024

**6% high**

**56% moderate**

**Association:**

- Use of medicines (OR=4,77 CI95% 2,0-11,3)
- Accidents on board (OR=2,53 IC95% 1,25-5,11).

**Independent** from age, work experience

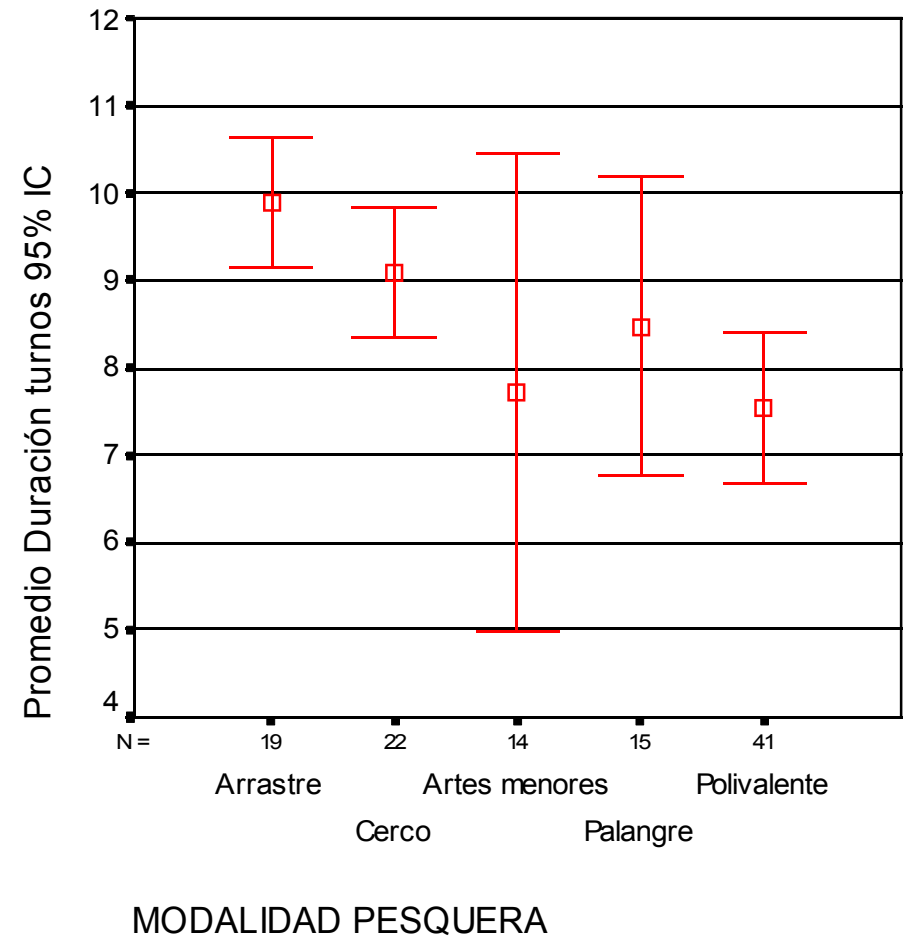
# Health Problems during last embarkment

<b>New (Incident) problems</b>	<b>N</b>	<b>Relat. Freq (%)</b>
- <i>Hypertensive crisis</i>	1	0,45
- <i>Anxiety / Stress</i>	3	1,22
- <i>Conjunctivitis and other ocular</i>	18	7,31
- <i>ORL diseases.</i>	2	0,81
- <i>Kidney Diseases.</i>	1	0,45
- <i>Others</i>	7	2,84
<b>TOTAL</b>	<b>32</b>	<b>13,00</b>

<b>Worsening of previous conditions</b>	<b>Relat. Freq</b>
- High Blood Pressure	5/25
- Diabetes-Hiperglucemia	1/16
- <b>Muscle -Skeletal Dis.</b>	<b>32/72</b>
- <b>Ocular Disease. / "irritative"</b>	<b>53/94</b>
- ORL Disease	5/14
- Respiratory Disease.	3/42
- Kidneys Disease.	5/14
- Others	4/104

# Organisation du travail

- ▶ 44,9 % work during night;
- ▶ Mean time 8.4 h  
IC95% (7,8 – 9,6);  
Trawling and purse seiners more that 9 horas





# Conclusions:

- ▶ **A Few differences in health perception and pathologies profile**, but coincidence of low risk perception; similar problems related to workconditions like fatigue
- ▶ **Worst quality of life while embarkment** (42,8 % worst in the third measurement after 4 month; negative mood 3,31): On shore 94 % OK.

# Conclusiones:



- ▶ La pesca es una actividad que precisa de un mayor esfuerzo preventivo y concienciación de los riesgos laborales al colectivo de pescadores.
- ▶ Il nous faut un effort préventive chez les pecheurs, et il faut faire attention aux aspects psychosociaux
- ▶ A bigger effort in prevention is needed in the fishing industry, we have to take into account psycho-social factors