

GRANSKINGARDEPILIN FYRI ØKISMENNING

Safety Awareness in the Nova Scotia Deep-sea Fishery

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1. Introduction

In order to change fishers' approach to safety and to develop effective educational and training programs, those involved must understand fishers' current attitudes to safety issues and how they fit into fishers' subculture. Fishers' working conditions, attitudes to their work, experience, family situations, physical and mental health, and perceptions of risks and danger on the job all influence their level of safety. This talk will examine Nova Scotian fishers' current levels of satisfaction with safety, describes what factors underlie those attitudes, and discusses how awareness of safety issues can be enhanced.

2. Levels of Satisfaction with Safety

How satisfied are fishers with safety? For this analysis, "the level of satisfaction with safety," the dependent variable had a five-point scale. The categories originally ranged from "very dissatisfied (1)," "dissatisfied (2)," "neither satisfied nor dissatisfied (3)," "satisfied (4)," and "very satisfied (5)." Because of the small number of "dissatisfied" and "neutral" cases, for later analysis I collapsed the levels of satisfaction into three categories; "satisfied," "neutral," and "dissatisfied."

On the whole, Nova Scotia deep-sea fishers appear very satisfied with the level of safety in their work. As indicated in Table 1, just over 85 percent of workers seemed "satisfied" or "very satisfied," while less than 9 percent appeared "dissatisfied" or "very dissatisfied" with the current level of safety. Pollnac and Poggie's study (1990, 408) found that 60 percent of New England fishers reported being "satisfied" or "very satisfied" with the level of safety, while only 20 percent appeared "dissatisfied" or "very dissatisfied."

Table 1: Distribution of Levels of Satisfaction with Safety

Levels of Satisfaction	Frequency	Percentage
Very Dissatisfied	7	2.1
Dissatisfied	22	6.6
Neutral	18	5.4
Satisfied	154	46.2
Very Satisfied	132	39.2
Total	333	100.0

* missing values for 1 case.

Although Nova Scotia fishers expressed a high general level of satisfaction with safety, it was necessary to find out if it varied relative to demographic characteristics.¹ I conducted an analysis of variance of demographic variables - "age," "number of dependants," "education level," "years of experience" - with three categories for "satisfaction": "satisfied," "neutral," and "dissatisfied." All of the demographic variables derived from direct questions. As indicated in Table 2, differences between the categories did not indicate statistical significance - a finding similar to Pollnac and Poggie's results (1990, 409).¹

Table 2: Analysis of Variance Across Levels of Satisfaction with Safety Categories

Safety Variable	Levels of Satisfaction with Safety			F Ratio	D.F.	p.
	Dissatisfaction	Neutral	Satisfaction			
Age (in Years)1	36.9	34.9	39.8	2.7	2	.07
Dependents2	2.7	2.3	3.0	2.7	2	.07
Education3	8.7	9.4	8.4	2.4	2	.09
Experience4	15.1	12.9	17.4	2.4	2	.09

(1) As measured by analysis of variance (F-test) with probability levels indicated in the following manner: *p = .05, **p = .01, ***p = .001.

1Missing values for 2 cases.

2Missing values for 1 case.

3Missing values for 4 cases.

4Missing values for 2 cases.

Younger and less experienced men tended to be more critical of safety on board vessels. Poggie and Pollnac (1990, 409) suggested that this depended on three factors: first, the most dissatisfied workers leave the occupation after only a few years of work; second, those with greater experience have developed more effective coping mechanisms; third, workers become habituated to the conditions. To those factors, we would add three more factors specific to the Nova Scotia deep-sea fishery.¹

Younger and less experienced workers, usually deckhands, do the most dangerous work and take the greatest risks (this helps to explain lower levels of satisfaction with safety reported by crew). These workers seek to enhance their economic position by taking safety courses, including first aid, emergency safety, and fire-fighting. Those courses did not exist when older workers started fishing, and by the time they take a "refresher course," they have become desensitised to the issues. Finally, companies have increased their attention to safety and markedly improved conditions on many vessels. Old hands recognise those improvements but younger workers do not.

But the acceptance of the current levels of safety reflects more than the lack of awareness of dangers. The possibility of accidents and the resulting injuries can be seen as part of the price paid for being a fisher, and the trivialisation of risks can be seen as an unconscious decision to trade off safety concerns for economic ones. For most fishers, economic uncertainty - price of fish, quantity and quality of fish caught - poses a much greater threat to survival. With the depletion of the stocks, those risks take on greater importance. Thus monetary benefits (e.g., steady employment, and higher wages) appear to be adequate compensation for the lack of non-monetary benefits (e.g., safety, independence). If, as Smith (1988) argues, economic concerns prevail over safety concerns, then workers will take dangerous employment with high wages in order to meet their immediate economic needs. If they accept this trade-off, they must be satisfied with the current level of safety.

3. How Aware Are Fishers of Factors Affecting Safety?

By surveying the literature on physical risks in the North Atlantic fisheries and their association with technology, technological change, and working conditions, I identified sixteen items that influence safety. In both the 1986 and 1987 surveys I asked fishers to rank their assessment of the importance of those sixteen items to safety on board their vessels. We measured the level of importance of various working conditions and attitudes about safety by a five-point scale - "very important (1)," "important (2)," "neither important nor unimportant (3)," "unimportant (4)," and "very unimportant (5)." Because of the small number of cases in the "very important" and "very unimportant" categories, for this analysis we collapsed the levels of importance into three categories: "important," "neutral," and "unimportant."

Table 3 presents those variables, as ranked by fishers from our 1986 sample (current workers). Over 95 percent of workers indicated six items - "the machine operator," "an individual's attitude to safety," "maintenance of machinery," "fellow workers," "mental pressure," and "the captain's attitude" - as important for safety. More than 90 percent of fishers identified "fatigue" as an important factor. More than 85 percent of workers recognised that "location of machinery," "drinking," and "length of time at sea" influenced safety. Eighty percent deemed "luck" to be important. Less than 75 percent of the sample distinguished "government regulations," "crew size," "horseplay," "size of catch," and "company's attitude" as contributing to safety. Over 30 percent of the workers reported "the size of catch" and "the company's attitude" as unimportant.

Table 3: Rank Order of Distribution of Levels of Importance of Safety Variables

Safety Variable	Levels of Importance of Safety			Mean	Missing
	Important	Neutral	Unimportant		
Machine Operator	333 (99.7%)	1 (0.3%)	0 (0.0%)	2.00	0
Individual's Attitude	329 (98.8%)	3 (0.9%)	1 (0.3%)	2.02	1
Maintenance	329 (98.5%)	3 (0.9%)	2 (0.6%)	2.02	0
Fellow Workers	326 (97.6%)	6 (1.8%)	2 (0.6%)	2.00	0
Mental Pressure	321 (96.4%)	6 (1.8%)	6 (1.8%)	2.05	1
Captain's Attitude	319 (95.5%)	11 (3.3%)	4 (1.2%)	2.06	2
Fatigue	311 (93.7%)	11 (3.3%)	10 (3.0%)	2.09	2
Location of Machinery	292 (89.3%)	20 (6.1%)	15 (4.6%)	2.15	7
Drinking	293 (88.8%)	20 (6.1%)	17 (5.2%)	2.16	4
Time at Sea	291 (87.7%)	25 (7.5%)	16 (4.8%)	2.17	2
Luck	262 (79.9%)	27 (8.2%)	39 (11.9%)	2.32	6
Government	247 (74.8%)	38 (11.5%)	45 (13.6%)	2.39	4
Crew Size	227 (68.2%)	31 (9.3%)	75 (22.5%)	2.54	1
Horseplay	215 (64.8%)	37 (11.1%)	80 (24.1%)	2.59	2
Size of Catch	172 (52.6%)	56 (17.1%)	99 (30.3%)	2.78	7
Company's Attitude	172 (51.8%)	31 (9.3%)	29 (8.9%)	2.87	2

In order to examine the interaction of workers' attitudes about the importance of safety variables with the level of satisfaction with safety, we conducted an analysis of variance. The results, in Table 4, indicate three statistically significant relationships associated with three variables - "individual's attitude," "maintenance of machinery," and "location of machinery." In all cases those fishers who reported the lowest levels of satisfaction with safety found the safety variables more important than those workers who reported higher levels of satisfaction with safety.

Table 4: Analysis of Variance of Attitudes to Safety Variables Crosstabulated with Levels of Satisfaction with Safety Categories

Safety Variable	Levels of Satisfaction with Safety			F Ratio	D.F.	p
	Dissatisfaction	Neutral	Satisfaction			
Machine Operator Individual's Attitude	2.0	2.0	2.0	.08	2	.92
Maintenance	2.1	2.0	2.0	6.14	2	.00***
Fellow Workers	2.2	2.1	2.0	12.67	2	.00***
Mental Pressure	2.0	2.1	2.0	1.77	2	.17
Captain's Attitude	2.1	2.0	2.0	1.51	2	.22
Fatigue	2.1	2.1	2.0	.86	2	.43
Location of Machinery	2.1	2.2	2.1	1.38	2	.25
Drinking	2.4	2.2	2.2	5.10	2	.00***
Time at Sea	2.4	2.1	2.1	2.43	2	.09
Luck	2.1	2.1	2.2	.87	2	.42
Government Regulations	2.3	2.7	2.3	2.54	2	.08
Crew Size	2.6	2.6	2.4	2.31	2	.10
Horseplay	2.5	2.4	2.6	.45	2	.64
Size of Catch	2.9	2.5	2.6	1.62	2	.20
Company's Attitude	2.8	2.7	2.8	.04	2	.96
	2.8	2.5	2.9	1.16	2	.31

(1) As measured by analysis of variance (F-test) with probability levels indicated in the following manner: *p = .05, **p = .01, ***p = .001.

In our analysis, workers attributed greater importance to those factors directly associated with their work environment and working conditions (e.g., machine operator, fatigue, etc.). Fishers deemed factors that affected safety but appeared distant from the immediate workplace less important or unimportant (e.g., government regulations, company's attitude). But they did recognise that those same factors influenced job satisfaction. Yet many of those latter factors objectively influence the working conditions and the level of awareness of safety.

4. Introduction Where do Safety Concerns Originate?

If in follow-up interviews fishers mentioned particular safety or health concerns, we asked them, "How did you become aware of these problems?". The responses indicated a broader range of opinion than the statistical analysis above would suggest. Their responses fell into five categories:

1. from other workers on the job;
2. education/training in the form of courses;
3. government and company demonstrations;
4. union activities; and
5. having had a serious accident or having seen a fellow crew member be seriously injured or killed.

5. Being Responsible for Each Other

Fishers most commonly learn about safety and dangers at sea from other men on the job. Although the Large Vessel Owners' Association sponsors a deckhand's course, fishers require no formal training. As one captain explains,

When a man comes aboard, we call 'em greenhorns. You have to take 'em around and show 'em. But that is just once around the deck or twice around the deck. But if that man would sit down and watch films for a week or two before he went out then he'd know a lot more of what's going on. (Well-Workers Interviews, Captain)

After this quick introduction, one of the old hands will be assigned to look after the greenhorn. Learning the job and the dangers associated with it depends on the knowledge of other workers. To train these new men requires skill and knowledge. As the captain (Well-Workers Interviews) quoted earlier explained, "It's not like on land. Some places you work on land, you got four men for one job; out there you got one man for twenty jobs." Greenhorns initially do simple tasks, such as sorting the fish or standing watch and spend their "spare time" learning basic skills - tying knots, making nets, etc. As they gain skill and confidence they take on more complicated and difficult tasks. When the greenhorn has put in a minimum of three months of sea time and has his captain's approval, he can try for his deckhand papers, which will allow him full crew status.

We asked fishers what made a good crew. Invariably they would talk about taking responsibility for your fellow crew members and looking out for them. As one deckhand explained,

A good crew works and sticks together. They can protect each other, watch out for each other, and everything runs so much smoother ... Like I said, everybody watches out for everybody else. There's the odd guy that's kind of careless, hyper, stuff like that. So if he

makes a little mistake he don't notice if you go behind and correct him. But you don't want to do it in front of the man's face. It's very important that everybody digs in like and does what's right. (Well-Workers Interviews, Deckhand)

This feeling of commitment to each other enhances their perception of being able to control their working environment. But when the make-up of the crew changes (i.e., a new but experienced crew member, greenhorn, or acting skipper joins the ship), the crew must again develop a sense of trust before they will feel secure. As one captain stated,

It is a big worry. If we got our old crew for trip after trip, it's fine. You get one greenhorn different on one of those ships and it's a different ball game. Because it makes the system a little bit different. I'm not saying he's not a good man. That's not the point. The point is he doesn't know like everybody else. He works a little different and everybody has a different system. (Well-Workers Interviews, Captain)

Predictable behaviour of crew members is essential for fishers' feeling of well-being.

6. Unions and Companies Working Toward Safety Awareness

If companies and unions display a positive approach to safety, fishers' awareness of these issues should be enhanced. A Chi-square analysis, presented in Table 5, shows the relationship between levels of satisfaction with safety and variables associated with union membership, union type and vessel type. Two items -- vessel type and union membership -- appear to be statistically significant.¹ Workers on trawlers reported the lowest level of satisfaction with current safety practices: over 10 percent indicated dissatisfaction, another 10 percent appeared neutral, and just under 80 percent indicated satisfaction. Workers on mixed-gear vessels reported the highest levels of satisfaction, with at under 95 percent. Scallop workers fell in the middle; almost 88 percent reported satisfaction, while just over 9 percent did not.

Table 5: Chi-square Analysis of Descriptive Variables Crosstabulated with Levels of Satisfaction with Safety Categories

Safety Variable	Levels of Satisfaction with Safety			N	X ²	D. F.	p.
	Dissatisfaction	Neutral	Satisfaction				
Union Member							
Yes	9.5%	7.9%	82.6%	190	5.73	2	.05*
No	7.8%	2.1%	90.1%	141			
Type of Union							
Militant	10.8%	8.1%	81.1%	111	.84	2	.66
Moderate	7.6%	6.3%	86.1%	79			
Vessel Type							
Scalloper	9.2%	3.3%	87.6%	153			
Trawler	10.2%	10.2%	79.7%	118	11.10	4	.03*
Mixed	3.4%	1.7%	94.9%	59			

(1) As measured by Chi square test with probability levels indicated in the following manner: *p = .05, **p = .01, ***p = .001.

Those workers belonging to a union appeared more likely to be dissatisfied with the current level of safety than non-unionised fishers. A study by Suschnigg (1988) compared three integrated steel mills located in Ontario, dividing unions into two types, "militant" and "moderate." He found that the mill workers belonging to militant unions had fewer accidents and paid more attention to safety than those belonging more moderate unions. For the purposes of this study, I labelled United Fishermen and Commercial Workers (UFCW) and Newfoundland Fishermen and Allied Workers (NFAW) as "militant" unions and all the other unions as "moderate," based on self-definition by the unions involved.

I used Chi-square analysis to test the hypothesis that members of the more militant fishers' unions would be less satisfied with their current level of safety because of their greater safety consciousness. Table 5 also presents the results of this analysis. Although the findings appear not to be statistically significant, the trend supports the hypo-thesis.

In order to find out what fishers thought of their company's attitude to safety, the interviewers asked them how interested their company was in safety. The categories included "interested (1)," "neither interested or uninterested (2)," and "uninterested (3)." Next I made an analysis of the variance of companies' attitudes to safety by the level of satisfaction with safety. For that analysis, I measured the level of satisfaction with safety, the dependent variable, on a three-point scale. The

analysis showed that those fishers who felt that their company cared about safety appeared statistically more satisfied with their level of safety.¹

In my analysis "union membership," "company's attitude to safety" and "vessel type"¹ proved to be factors that enhanced fishers' awareness of safety. Fishers' unions always display concern for safety, but wages and job security have had priority in the past. Since the early 1980s safety has taken on a higher profile in collective bargaining, corresponding to an increased awareness and interest in safety on the part of both unions and companies.

The largest company in Nova Scotia, National Sea, has hired a fleet manager with a special mandate for safety. National Sea arranges demonstrations of safety equipment and procedures, offers first aid classes to all employees, and has made monthly safety inspections and fire drills on vessels mandatory. Fishers earn tickets (licences) through a combination of sea time and classroom instruction based on written and practical materials. This company supports fishers who want to advance their training, particularly officers who wish to upgrade their tickets to Master Mariner I (Fishing). This increased attention to safety matters had several causes; a series of accidents resulting in fatalities in the early 1980s, increased Workers' Compensation Board premiums, increased union pressure for better working conditions, and the move to scientific management.

Some companies have followed this lead; many have not. However, when fishers leave this company to work for other employers they take their awareness of safety issues with them. Those fishers, working with their unions or worker groups, have helped to raise the consciousness of their fellow workers and to demand safer working conditions from their employers.¹

With the push by unions and some companies to increase safety awareness, there has been a corresponding increase in the demand for first aid courses. In the progressive companies, all crew members take those courses, usually early in their careers. Only ambitious workers, usually after two or three years of sea experience, take advanced courses. As discussed above, younger and less experienced workers tend to be less satisfied with safety, and the interaction of these factors cannot be separated.

7. The Impact of Training Programs and Demonstrations

While many of the fishers interviewed minimised the risks, others appeared more aware of the dangers. Two "graduates" of their company's required safety course gave the following statements:

There's risk to your health wherever you're at. You're just as safe on the water as you are with anything else ... It's the same as on land, sometimes you get hit with a truck, where on the water you don't get hit by a truck, you get bumped on the rail. So it's a little safer there. Just watch yourself. (Well-Workers Interviews, Deckhand)

Oh, when it's rough weather you can't say that there is no risk 'cause there is. You put your foot aboard the boat and you're taking a risk about the same as in the woods logging. You got that risk every day that the tree you're sawing down is going to fall on top of you. It's about the same as going fishing. You're taking a risk as soon as you step aboard the boat of going overboard or whatever. You know that there is no control over it ... If you have got a good gang that you know that's conscious of what they are doing all the time, you don't get hurt. Like I say most accidents happen out of neglect or stupidity and if everybody keeps their mind on what they're doing - no horsing around and stuff - you don't get hurt. (Well-Workers Interviews, Deckhand)

These men, as did others, compared the risks at sea with those on land. Many fishers told the interviewers that they considered fishing safer than driving a car, stating that fewer people died at sea than on Nova Scotia highways, but they failed to take into account the total numbers at risk. Woods' workers represent a comparable group, since those occupations have an equivalent rate of injury. Poggie (1980) reports a similar comparison of relative risk by New England fishers. When he suggested that fishing entailed physical risks, the fishers he spoke to either denied it or said "that it is no more dangerous than riding in a car" (Poggie 1980, 123) - an attitude Poggie attributes to "repressing their awareness of the dangers of their occupation."

Many workers said that they had taken courses that had a large safety awareness component. When "drilled" by the interviewer they knew all the right answers, but they did not all believe that they could be helped by this knowledge in the event of an accident. So what makes the difference? Table 6 presents a Chi-square analysis of variables influencing safety awareness by levels of satisfaction with safety. I assessed those measures through direct questioning. Only one relationship represented a statistically significant finding - having "taken a first aid course." Workers who had taken a first aid course reported less satisfaction with safety aboard their fishing vessel. "Has private insurance," "taken a course," or "wears safety clothing" showed no statistical difference when their level of satisfaction with safety was measured. Depending on its timing and content, taking a first aid

course, training facilitated by its universality in some companies (an indication of a company's commitment to safety), can enhance a fisher's awareness of safety.

Table 6: Chi-square Analysis of Measures of Awareness of Safety Crosstabulated with Levels of Satisfaction with Safety

Safety Variable	Levels of Satisfaction with Safety			N	X ²	D.F.	p.
	Dissatisfaction	Neutral	Satisfaction				
Has Private Insurance							
Yes	8.3%	6.5%	85.3%	278	4.01	2	.13
No	10.9%	-	89.1%	55			
Taken a Course							
Yes	9.3%	6.6%	84.1%	227	2.25	2	.32
No	7.7%	2.9%	89.4%	104			
Taken a First Aid Course							
Yes	10.9%	8.0%	81.0%	174	7.63	2	.02*
No	6.3%	2.5%	91.1%	158			
Wears Safety Clothing							
Yes	8.6%	5.9%	85.5%	303			
Sometimes	8.3%	-	91.7%	24	1.69	4	.79
Never	-	-	100.0%	1			

(1) As measured by Chi square test with probability levels indicated in the following manner:
*p = .05, **p = .01, ***p = .001.

If safety courses remain voluntary, only the workers who have been sensitised to the issues will take them. Compulsory courses given by government agencies, companies, or unions that upgrade a worker's qualifications reach a broader audience and have better potential for increasing awareness. But compulsory courses may still not change attitudes substantially; for some fishers, the denial of control seems adaptive from a psychological viewpoint. In order to tailor courses that meet both the physical and psychological needs of fishers, people must understand what function the denial of danger has for them. Fishers' anxiety can be reduced by teaching how to reduce risks without undermining the perception of being in control of the working environment.

8. The Impact of Exceptional Risks

Workers who have experienced exceptional risks at sea may be more conscious of safety. More than 75 percent of fishers who had had an accident said that they were more aware of safety concerns afterwards. I used Chi-square analysis to compare different measures of experience of exceptional risks with levels of satisfaction regarding safety. Those measures derived from direct questions and the results appear in Table 7. Only one case proved statistically significant - having experienced a fire at sea. Over 17 percent of those who had experienced a fire at sea reported dissatisfaction with safety, compared to just over 6percent of those workers who had not. Levels of satisfaction with safety for the other variables - ever having abandoned a vessel, ever having been ill at sea, ever having been in an accident at sea, ever having been on an unsafe vessel and ever having collected Workers' Compensation (WCB) – appeared not to be statistically different.

Table 7: Chi-square Analysis of Measures of Exceptional Risks at Sea Crosstabulated with Levels of Satisfaction with Safety Categories

Safety Variable	Levels of Satisfaction with Safety			N	X ²	D. F.	p.
	Dissatisfaction	Neutral	Satisfaction				
Ever Been in a Fire at Sea							
Yes	17.1%	5.3%	77.6%	76	8.68	2	.01**
No	6.3%	5.5%	88.3%	256			
Ever Abandoned Vessel							
Yes	10.9%	4.3%	84.8%	46	0.39	2	.82
No	8.4%	5.6%	86.0%	286			
Ever Been Ill at Sea							
Yes	12.8%	4.3%	83.0%	94	2.92	2	.23
No	7.1%	5.9%	87.0%	239			
Ever Been in an Accident at Sea							
Yes	8.4%	5.8%	85.8%	155	.12	2	.94
No	9.0%	5.1%	86.0%	178			
Ever Been on a Unsafe Vessel							
Yes	11.1%	4.9%	84.0%	162	2.36	2	.31
No	6.4%	5.8%	87.7%	171			
Ever Collected WCB							
Yes	9.4%	4.7%	85.8%	106	.23	2	.89
No	8.4%	5.8%	85.8%	226			

(1) As measured by Chi square test with probability levels indicated in the following manner:

*p = .05, **p = .01, ***p = .001.

Given our experience with the "serious accident" question "Have you ever had a serious accident?" we asked fishers in follow-up interviews if they considered items in our "exceptional experience" category to be extraordinary. Fishers associated experiences such as falling overboard, abandoning a vessel, or having an accident at sea with dangers regularly encountered during fishing. Fishers consider a fire at sea or witnessing the death of a co-worker an extraordinary event. Those exceptional experiences critically affect safety awareness because they make workers rethink their basic assumptions about safety at sea.

9. Wives' Worries and Concerns

While fishers trivialise the risks they take, their wives characterise their lives as being full of uncertainty and fear that their husbands may return maimed, or not return at all. This common concern binds crew members' wives together. As one fisher's wife described it:

They burn up the phone lines ... I can't stand the phone ringing like that, and hearing the same thing. It'll be the wives calling. The company couldn't stand it either, they just about drove management crazy ... They had to set up a number that you can call in the mornings, and they have a taped report on the boat. Now I don't imagine if there was anything seriously wrong, they'd have that on the tape ... But can you imagine all of us calling every time there is a storm? (Wives Interviews)

Community members, wives, and families know that the North Atlantic fishery is a dangerous industry and that the men take those risks in order to provide for their families. Davis (1985) argues that in the Newfoundland context, "worrying" provides evidence of being a "good wife." Thus wives take on the role of "worrier" within the culture, whereas a man who worries is said to be an "old wife."

Fishers distinguish between "worrying" and "being in danger." When we asked fishers if their families worried about them during their absence at sea, all crew members and two-thirds of the officers including captains and mates said yes. Yet when we asked if their families thought their work dangerous, only 75 percent of the crew, 68 percent of the officers and 63 percent of the captains and mates answered yes. A number of those men went on to explain how silly they felt their families were to have those beliefs. Conversely, a number of officers explained that their families had

once thought fishing dangerous, but that they had persuaded their families that it was not. An alternative hypothesis might be that once a crew member moves off the deck and into the wheel-house his wife feels more secure about his safety than when he worked on deck, but she continues to worry. Two wives we interviewed spoke of their relief when their husbands moved into the wheel-house. They recognised the difference in the level of danger and acted appropriately. This change in attitude by the family may be perceived by the fisher as a sign of acceptance of his work rather than a sign of relief.

The family itself may also play a part in desensitising individual members to the risks at sea. Poggie (1980, 125) found that the more relatives a fisher had in fishing the more satisfied he was with safety at sea. Thus fishing families may adapt to the psychological stress of fishing through family exposure to the risks and through positive role models. By the time children of fishers consider a career in fishing their father has become firmly established in the industry - after many years unsuccessful workers will have left the fishery and only the "winners" will remain. Since most learning at the initial stages occurs on an individual and informal basis, the majority of fishers' sons entering the industry will be initiated by their fathers, who have already made the psychological adjustments necessary to cope in this environment. But this socialisation makes it more difficult to change attitudes to safety.

10. Making a Difference

Workers' characterisation of a situation determines the way they define risk. Unions, worker groups, companies, government agencies, and to some extent families who want to increase fishers' consciousness of the importance of safety must work not only to improve safety conditions on vessels but also to redefine workers' attitudes and broaden fishers' understanding of what factors influence safety, especially those factors outside the immediate workplace (e.g. government regulations and companies' management policies). Moreover, they must use an approach that presents information on how to reduce risks without undermining the perception of being in control, an essential component of many fishers' psychological well being. For example extraordinary situations, such as fires at sea, must be made ordinary. Monthly fire drill training in the actual conditions on board will allow fishers to feel in control of such a situation should it arise.

Companies, unions, and worker groups need to develop a positive approach to safety issues and to work together to enhance safety awareness. Demonstrations of safety equipment, fire and abandon-ship drills, and safety inspections need to be held frequently. Compulsory training programs

must begin early in fishers' careers and those courses need to be supported by companies. Workers entering the fishery must be made aware of safety procedures from the beginning. A basic training course with safety awareness and first aid components needs to be developed. This class should be taken by greenhorns prior to or in their first three months of employment as a condition of employment. Companies should recognise the safety advantages of a consistent crew membership and endeavour to keep crews together. Because fishing families play a crucial role in supporting current fishers and in socialising the next generation of fishers, attempts should be made - e.g., through public demonstrations of safety equipment - to draw them into the process.

Notes

¹ Poggie (1980:125) found that "the more kinsmen a person had who are fishermen the more satisfied the individual was with the safety of his work." Thus we would expect this variable to have a positive effect on Nova Scotia fishers' satisfaction with safety. We did not ask fishers how many kinsmen they had who were fishers, so the hypothesis cannot be tested.

² In their earlier paper, Pollnac and Poggie identified the possibility of interplay between "age" and "years of experience". Following their example, "age" and "years of experience" were dichotomised at the sample means (39.2 years and 17 years respectively) and crosstabulated by the dichotomised version of the satisfaction scale. The findings for the two variables are virtually the same. There is no statistically significant finding in this analysis; however, there is a tendency for younger and less experienced fishers to be less satisfied than the older and more experienced workers with safety. Pollnac and Poggie (1989:4) identified a similar trend for the "years of experience" variable.

³ These three additional factors are specific to the conditions of the Nova Scotia deep sea fishery. They do not apply to the New England Fishery, where safety courses and corporate interest in safety are not common.

⁴ Analysis of the relationship of level of satisfaction with safety to the variables "job status", "enterprise type" and "sector of the fishery" did not yield statistically significant results, but two related trends should be noted. First, crew members were less satisfied with safety than officers and captains were. Second, fishers working in craft enterprises or in the midshore fishery were more satisfied with safety than workers in industrial enterprises or deep-sea sector were. When the relationship between the general job satisfaction variables - "Would you go fishing again?" and "Do you want your son to go fishing?" and the level of satisfaction with safety were analysed, the results were not statistically significant. It should be noted however, that those workers who stated that they would not advise a son to go fishing or would leave it up to him were proportionately more dissatisfied with the present levels of safety than were those who would advise their sons to go fishing.

⁵ This analysis was significant with a F ratio of 10.2 at the $p=.00$ level with two degrees of freedom.

⁶ There may be some interplay between "company attitude" and "vessel type". National Sea has the majority of the deep-sea trawlers and is one of the most progressive company in Atlantic Canadian.

⁷ The situation is the reverse in the Newfoundland deep-sea fishery. There the driving forces for change are the unions--UFACW and NFAW--not the companies. For more information about the Newfoundland situation, see Barbara Neis (1987).