

This is an Open Access document downloaded from ORCA, Cardiff University's institutional repository:<https://orca.cardiff.ac.uk/id/eprint/167488/>

This is the author's version of a work that was submitted to / accepted for publication.

Citation for final published version:

Sampson, Helen and Wu, Bin 2007. Thoughts on safety: the views of Chinese seafarers. Presented at: Seafarers International Research Centre Symposium 2007, 04-05 July 2007. Seafarers International Research Centre Symposium Proceedings (2007). Cardiff, UK: Seafarers International Research Centre, pp. 138-156.

Publishers page:

Please note:

Changes made as a result of publishing processes such as copy-editing, formatting and page numbers may not be reflected in this version. For the definitive version of this publication, please refer to the published source. You are advised to consult the publisher's version if you wish to cite this paper.

This version is being made available in accordance with publisher policies. See <http://orca.cf.ac.uk/policies.html> for usage policies. Copyright and moral rights for publications made available in ORCA are retained by the copyright holders.



THOUGHTS ON SAFETY: THE VIEWS OF CHINESE SEAFARERS

Helen Sampson and Bin Wu¹

Abstract

Following the findings from the LRETRU/SIRC study of perceptions of risk, which identified nationality as a key influence on risk perception, research has been undertaken with Chinese seafarers to try to explore the factors which influence risk perception amongst a single national group. This paper reports on the preliminary findings of this study and discusses the main factors which are identified by Chinese seafarers as mitigating, or increasing, risk on board a vessel. These include: the practices and policies of employers; the impact of colleagues and their on board relationships; the effect of local labour market conditions; and the relevance of previous experience in determining risk perception.

Introduction

In recent reports (Bailey, Ellis, Sampson 2006, and Bailey, Ellis, Sampson forthcoming) on seafarers' perceptions of risk, nationality has been identified as a major influence on seafarers' views. In relation to vessel level incidents Chinese seafarers have been found to be almost twice as likely as other nationalities to perceive there to be a risk of an accident (fire, explosion, collision, sinking, grounding or contact with a fixed structure) occurring in their company (Bailey, Ellis, Sampson 2006). Whilst, in relation to personal injury, a complex picture of risk perception emerges. Chinese seafarers, it seems, are more likely than seafarers of other nationalities to identify a risk of injury pertaining to seafarers working for their own employers. However, and intriguingly, seafarers from China do not seem to perceive the risks associated with shipping in general as greater than other national groups (Bailey, Ellis, Sampson forthcoming).

¹ We would like to thank David Walters for his helpful comments and advice in relation to the development of this paper. We would also like to thank all the seafarers who took part in the reported study and the two shipping companies who kindly agreed to allow Dr Wu to sail on their vessels.

Such interesting findings warrant further investigation. To this end, this paper represents a very preliminary report on some research conducted by Wu aboard wholly Chinese crewed vessels. The aim of the study, which is on-going, is to arrive at a better understanding of the ways in which Chinese seafarers understand risk and the matters and ideas which may influence their perceptions. Further research is due to take place and as such this paper reports on the preliminary findings from the first two vessels to be included in this study.

Methods

In 2006 and 2007 Wu undertook research voyages aboard one tanker and one bulk carrier. He spent a total of 73 days aboard these two ships and formally interviewed 49 seafarers. Informal interviews and observations also took place, and detailed fieldnotes were maintained in the course of the data collection on board. This paper draws upon materials collected in the course of the research, including transcribed confidential interviews and field notes.

Perceptions of the safety of shipping

In relation to general perceptions of the safety of shipping, participants were divided. Some expressed a view that seafaring was relatively safe and cited: modern technological developments and improvements (e.g. in navigation systems and marine machinery); international regulation (e.g. SOLAS, ISM, ISPS); and more effective enforcement of regulation via port-state inspections; as reasons for safety improvements. Such seafarers often contrasted shipping favourably with shore-side industry and transportation in China, regarding the mainland as having a poor safety record. Other seafarers saw things rather differently, however, and highlighted the contemporary relevance of 'human error' in shipping accidents, referring also to the dangers of piracy which pose a significant threat to modern vessels particularly those trading in the Far East and in areas off the coast of some African states (e.g. Somalia). At the forefront of the minds of many of these seafarers was an awareness of the remoteness of deep-sea going vessels and the associated problems with rescuing or

helping seafarers in difficulty once they were underway. For these seafarers shipping was a high risk occupation and as one senior officer put it: *'You can never be relaxed until you stand up ashore after the completion of your contract'*.

Thus it seemed that there was no universal view about the risks associated with shipping in general amongst the seafarers included in this study. Some were convinced that the modern shipping industry was generally a comparatively safe one in which to work, others regarded its inherent nature (remote from shore-side assistance and facilities) as risky and were conscious of some of the very specific risks attached to shipping (such as piracy). What subsequently emerged in the accounts of most of the seafarers, however, was the importance of companies in terms of management policies and practices in mitigating or exacerbating risk in the exercise of their practices and the implementation of their policies.

The importance of 'the company'

It emerged in the course of interviews with seafarers that their companies' policies and practices strongly influenced perceptions of risk. It was widely understood that risk could be mitigated by seafarers and companies working together and acting in accordance with safety protocols. The following interview extract is illustrative of the ways in which seafarers believed that shipping could be rendered relatively safe where all parties acted properly and promptly:

Interviewer: *...Is this a relatively safe occupation or a high risk occupation?*

Interviewee: If the company has a good management system and working manuals and crew members implement the company manuals strictly, seafaring is not a risky occupation.

Interviewer: *What do you think about the impact of occasional or natural factors?*

Interviewee: I don't think those factors are important compared with human factors. Sometimes, deficiencies of the ship's hull or key equipment may be vital for the safety of ship and crew. Even so, it depends upon whether crew are able to identify the deficiencies at the earliest, and then whether the company can take necessary measures to deal with it once the company

received the report from the crew. Should both crew and company take serious steps on safety management, the seafarer's occupation won't be as dangerous as normally expected. So shipping safety requires both the earliest findings of crew and also prompt response of the ship company. (Senior officer)

Reinforcing this view another interviewee emphasised that new vessels could be rendered unsafe by poor company practices whilst old vessels which were well run and managed could operate relatively safely. He explained that:

Many small companies own new vessels but are poor in safety management. In that case, their ships are not safe at all. By contrast, some companies like my current servicing one have had comprehensive and strict safety management systems for a long time, in which the safety of even old ships can be secured. I believe that the safety of a ship is dependent upon management - both safety management by the company and by the crew. Without safety management, new equipment can easily be broken, leading to accidents.... Ten years ago, I would have placed an emphasis on ship conditions and I would have thought that a new ship would be safer than an old one. Today, I would give more weight to human factors and company safety management systems. (Senior officer)

Another seafarer of much lower rank reinforced this view arguing:

A 30 year old ship may not be necessarily poorer than a 10 year old ship in terms of the safety because the strict management is more important. (Rating)

However not all seafarers were sanguine about the reliability and safety of their vessels and some suggested that there were some ships that were inherently unsafe creating danger that was beyond the 'control' of serving seafarers. One engineer for example reflected on a vessel he had previously served on. He described how he felt that:

Interviewee: It was our luck that no incident, like, related to the stopping of the main engine, happened during the period of poor navigation conditions. I was always worried and could not be relaxed throughout my service.

Interviewer: *Do you mean that without the reliability of marine machines and equipment, the safety of ship and crew cannot be secured?*

Interviewee: Certainly, this is particularly true for the main engine, which was my responsibility as 2nd engineer. In that period, I was a bit nervous.

Interviewer: *What factors caused you to be so nervous?*

Interviewee: That was the deficiency of the ship design and building. The designer focused on the economic profit only. Cargo space, deck equipment and machinery are excellent, leaving the engine room too small to do maintenance work. Average temperature in the Engine Room was over 46 °C. A key issue was the unreliability of the main engine. As all Chinese crew in this company knew her, it was difficult for crew agency to send us to this ship even US\$100 more for a 3rd engineer's wage. Safety was a major consideration. (Senior engineer)

Thus seafarers recognised that there were limits to the problems that could be overcome by on-board, or on-shore, human endeavour alone. Nevertheless the 'company' approach was often key to their perception of safety.

Research in other sectors such as railway operation has identified an association between distrust and poor safety performance (Clarke 1998) and in reviewing some of these findings Conchie and Donald (2006) conclude that:

In explaining this relationship most safety professionals agree that negative attitudes are the cause and not the consequence of accidents (e.g. Lee and Harrison 2000). For example, workers who express negative attitudes toward safety are more likely to experience an accident than workers with positive attitudes. **Research into risk draws similar conclusions.** (Conchie and Donald 2006:1154. Our emphasis)

Trust has often been discussed in relation to leadership and management (Clarke 1998, Fleming and Lardner 2001, Cox et al 2006). Where trust breaks down, be it in relation to the implementation of a 'just' or 'no blame' culture or in relation to

management commitment to safety, negative consequences accrue in relation to safe working practices and the development of a safety culture. In Clarke's research on British railways, for example, she demonstrated that rail workers failed to report minor incidents to management where they felt that 'management take no notice' (Clarke 1998:287). Such under-reporting undermines safety management and increases risk. Confidence in management is therefore key to the proper implementation of safety management systems. This was understood by the participants in this research who identified the company approach as a vital element in relation to the degree of risk they experienced at work. In relation to seafaring there is necessarily a distance between vessels and shore-side management. This distance is clearly a physical one but seems equally to be inter-relational. Shore-side management are seen by many seafarers to be the 'company' and the 'management' whereas shipboard senior officers seem to be more akin to 'supervisors' in land-based industries. Thus the 'company' can be equated with 'management' and trust in the company directly impacted upon the participating seafarers' sense of safety on-board. They saw the company as playing an essential role in determining the implementation of safe working practice on board. Similarly, however, in this research, relationships with colleagues particularly, but not exclusively senior officers (supervisors), featured strongly in relation to perceptions of risk.

The importance of colleagues on board in relation to perceptions of risk

Participants identified fellow seafarers as having a critical role in mitigating risk. In this, senior members of the crew were seen as vital in preventing accidents via the promotion of trust, team spirit, and error free work. Trust was again identified as a key component of safety management. As one rating explained:

Management is key. I mean that the personalities, leadership styles, and charisma of ship leaders (including the Captain and the Chief Engineer) will determine whether they can bring a crew together as a close and united team. If so, error chains can be identified and disrupted at an early stage. If not, say that a leader does not take care of personal matters amongst the crew and is very rude in delivering his commands to subordinates, they would distrust

and be disappointed in him. As a result, they wouldn't report anything [requiring attention]. In this case, the ship will be unsafe even if it is a new one. (Rating).

Senior officers were also considered to be a necessary, and an important, mediator of shore-side commercial pressure by seafarers. Some suggested that it was the role of senior officers to soak up such pressures and prevent them from impacting upon, and influencing, the remainder of the on board team. One explained that:

All pressures should be the pressures of the captain and C/E because the crew do not have direct contact with external information. It is important how the captain and C/E approach work pressure and how they communicate with outsiders? External pressure should not be directly transferred to the crew.

(Senior officer)

Where senior on-board managers were regarded as weak, seafarers perceived that safety was compromised. One seafarer offered the following description of events aboard a ship he had served upon. In his account the Captain was deemed to have failed to resist shore-side commercial pressures which had ultimately caused him to insist on a mistaken course of action that could have had serious health and safety implications. In the seafarer's account the Captain failed to resist the pressure applied by shore-side managers who required him to press for a faster voyage time than was sensible given the engine capacity of the ship. The Chief Engineer was deemed to have similarly failed to resist pressure exerted by the Captain causing him to operate the engines at a faster rph than was safe in the seafarer's eyes. This impacted negatively on the seafarer's perception of safety on board. He explained that:

In the last ship, the maximum revolutionary rate of the main engine was 180 rph due to the constraint of the engine conditions. In order to reduce the voyage duration, the captain asked the engine department to increase the revolutionary rate. The C/E passed the captain's request to us. After a discussion amongst the engineers, we concluded that we cannot increase the speed beyond the limit of the ship condition. Having seen no response from us, the captain rang to an on-duty engineer directly and repeated his request. I told

the C/E that we had never taken such high speed which may have serious consequences. The C/E did not accept my advice and he came down to the engine room to implement the captain's command. After one day run at the higher speed, unsurprisingly, two cylinders began to leak oil seriously. We had to stop the engine and spend two days making emergency repairs, making the voyage much longer than the original speed. It was our luck that the weather was not too bad at all during the period of the main engine stopping. Otherwise, we might have had a big problem.

Thus leadership and management were seen to impact significantly on seafarers' general sense of safety on board and their perception of the risk associated with their work. On-board seniors were emphasised in the accounts of most seafarers. Their role in leadership, promoting team work, and exercising authority in relation to team working rather than command and control tyrannies, was regarded as important to the safe operation of ships. Lee and Harrison (2000) argue that their research in the nuclear sector indicates that management style can have a strong impact upon safety-related attitudes. Their findings echo the perceptions of seafarers in this study who equated less authoritarian styles of management with less risk. Lee and Harrison suggest that:

The categorization of management style is shown moving broadly from 'laissez faire' through 'authoritarian' to 'democratic' in general accord with the literature on leadership and safety culture[...] This progression is associated with increasingly favourable attitudes towards safety on the part of 'followers'.
(Lee and Harrison 2000:88)

However, for Chinese seafarers it seemed that another element, which impacted strongly upon the ability to promote effective teamwork, was essential to safety on board and their confidence in risk mitigation strategies and practices. This element is termed 'guanxi' in Chinese.

Guanxi, is a term with complex meaning but for our purposes relates to a feeling of collective harmony, which underpins the understanding of many Chinese seafarers reflecting upon the importance of on board relationships and their perception of safety. 'Good' guanxi was deemed by many to be a vital component of effective team

work which was widely understood to improve safety on board. As one seafarer explained:

Interviewer: *Which factors influence the safety of a ship?*

Interviewee: Guanxi is certainly an important factor.

Interviewer: *How can guanxi influence safety?*

Interviewee: Suppose that I had just argued, shouted at, or fought with, a crew member, how could I concentrate on my work? As you know, some jobs in the engine room are very labour intensive and mentally demanding whilst others are not. If you are in a good mood, you won't feel tired even if a job is really hard. Should you be in a bad mood, you will feel very tired even if the job is not difficult and you are very familiar with it..... Being in a bad mood is counter to the safety of yourself and others because you are unable to concentrate on your work.

Interviewer: *You have raised an important point that safety is closely related to the psychological state of crew members.*

Interviewee: Yes, bad moods cannot secure the safety of yourself and others because you cannot concentrate on work and make responses properly as usual. It is easy to lead to an accident because alongside working, you may be still concerned about what you heard, some bad words, or forged reports against you. In particular, you would find it very difficult to work with those with whom you had argued. (Rating)

Where guanxi was good it positively impacted upon the risk perceptions of crew members. Where guanxi was poor it seemed that seafarers perceived their ship as less safe and their lives and health to be at greater risk.

It seems that guanxi requires careful fostering and maintenance and that Chinese seafarers identify a number of responsibilities and 'rights' associated with guanxi. Guanxi is shared across a group who are deemed to share a collective responsibility for one and others' welfare. Thus guanxi could be negatively affected by the failure of particular individuals to act in the collective interest or to protect the interests of one of their member associates. Guanxi clearly related to seafarers who for the duration of the voyage were regarded by many as sharing a collective responsibility on board.

This is an extension perhaps of the fairly usual sense of comradeship (a term originally emanating from the sixteenth century Spanish fleet see Perez-Mallaina, 1998 and Bloor, 2005) experienced on board by seafarers who find themselves ‘all in the same boat’ (or specifically in the case of the sixteenth century Spaniards ‘all in the same bedchamber’) and therefore sharing common interests. However guanxi in China operates strongly ashore and the intersection of interests and responsibilities involved could produce conflicts between the maintenance of shore-side and shipboard guanxi.

On board guanxi could thus be affected by the distribution of the network of agencies supplying crew to vessels. Where crew agencies were dispersed, and thus on board crew were recruited from different parts of China, conflicts could emerge. Regional affiliations, prejudices and discrimination could disrupt on board harmony in ways which are very similar to those reported by Filipino crew who often express a preference for multinational vessels as a result of a desire to mitigate regionalism (Sampson 2003). For some Chinese crew the proposed solution was rather different however and they advocated that crews be made as homogenous as possible and be supplied by single agencies. The following account of the perceived problem and a proposed solution are illustrative:

Interviewer: *Does guanxi influence the performance of Chinese crew?*

Interviewee: Yes. Some region’s crew are particularly inclined to establish their own grouping. Small groupings are more likely to exist when crew are supplied by different crew agencies, like a “United Nations”. In my company, all officers are free seamen from different crew agencies while all ratings come from the same crew agency. This has made it very difficult for senior officers to manage and control the ratings.

Interviewer: *Why?*

Interviewee: Because the crew manager finds excuses to block their decisions or impede crew replacement. This will lead to either an accident or a near miss. Such consequences are actually inevitable.

(Rating)

On board strife, rifts, and power struggles were discussed a great deal by the seafarers in this study. It seemed that the capacity for personnel to access the support of the wider crew, to mobilise *guanxi* as it were, had the potential to fundamentally undermine the authority of even senior figures on board, illustrating how crucial on board relationships were to safe operations and to perceptions of safety. The following account offers an example of a captain being undermined by one of his officers which ultimately, in the view of the seafarer recollecting the story, resulted in an accident. The seafarer explains:

Holding a captain's certificate in his hand, the C/O tried to weaken the authority of the captain and replace the latter through developing his own *guanxi* on board. In order to maintain his position, the captain had to agree with him to promote an unqualified OS to AB in order to take duty on the bridge. In the Suez Canal, the unqualified AB was unable to follow the pilot's command, and the ship grounded, resulting in a damaged hull. (Junior officer)

It was not only poor *guanxi* that was regarded as having the potential to undermine safety on board however. It seemed that in some cases seafarers did not feel confident about the experience and 'know-how' of their peers. Researchers considering safety culture and the role of trust in the promotion of such cultures have commented that the operation of a "good" safety culture can be characterised by a mutual trust that key stakeholders have in each other" and that furthermore workers feel secure when they know 'that individuals have the necessary skills to carry out specific work tasks' (Cox et al 2006:1124) In the course of this research it emerged that such faith in the competence of fellow seafarers was not always present. It was suggested by some participants that Chinese seafarers had, in some cases, acquired poor working practices and habits from their experience in the national fleet and that such deficiencies could be rectified if foreign companies provided good on-board guidance as to how to maintain or operate pieces of equipment and machinery. For example a senior officer suggested that:

We would like to learn more from strict management and highly professional standards from foreign companies.....We must admit that few [Chinese] crew/engineers/officers have good experience on maintenance work, and some

may have the wrong experience, resulting in frequent breakage of the equipment and machinery ... So a good company SMS and operating manuals are important, partly because we can learn a lot from reading company documents and improve their knowledge, partly because the manuals indicate what are the correct ways to carry out maintenance work. A good manual not only reminds us what to do, but also tells us how to do it. (Senior Officer)

However there was also a feeling that seafarers might not wish to learn but that by utilising 'guanxi' ashore to secure work on board, and by moving from company to company to avoid the consequences of their incompetence, some very poor, or in the terms of one seafarer 'rubbish', seafarers survive in the modern Chinese seafarer labour market placing their fellow workers at risk. As one seafarer put it:

There are many 'rubbish' seafarers amongst Chinese senior officers aboard foreign ships. They are poor in professional standards but strong in abusing guanxi for personal purposes. Without a credit system in the global labour market, unfortunately, they can move easily from one company to another. This has not only negative impacts on the professional development of junior officers and cadets, but also makes it difficult to establish a safety culture amongst Chinese seafarers due to the variety of professional approaches and standards. Such phenomenon should be attributed to the impacts from the traditional management system and culture within China's state-owned shipping companies and crew agencies, which have yet transformed to a new system and culture. Such impacts can be summarised as the lack of professional concentration, poor professional standards, short term perspective, and favour to personal guanxi. (Senior officer)

This lack of confidence in colleagues' knowledge, competence, and experience, may well contribute to the heightened perceptions of risk identified amongst Chinese seafarers in relation to working in their current company (Bailey, Ellis, Sampson, forthcoming). A perception that other seafarers working for other companies may be better skilled and more knowledgeable could account, in part, for the perception amongst Chinese respondents identified in the same research (see Bailey Ellis Sampson forthcoming) that shipping in general was not as risky as respondents from other countries felt it to be.

The influence of the structure of the labour market

A particular feature of the Chinese seafarer labour market appeared to compound this lack of confidence in the ability of colleagues. It seemed that seafarers had concerns about the influence of shore-side agency staff upon relationships on board wholly Chinese crewed vessels. Suggestions of nepotism were made by crew members who raised the safety implications of such practices and relations. One explained that senior officers, fearful for their jobs, could be made to feel that they were unable to exert influence over junior crew members in relation to safe working practices. He suggested that:

In the face of market competition, for instance, some captains and C/Es may be concerned about how to secure their jobs in this company. When they pay serious attention to the safety management, it may offend some crew who have a special background with the crew agency. This may make it difficult for those senior officers to perform their duties. In order to maintain harmonic work and personal relationships, they may give up their effort in safety education, training and strict management. (Senior officer)

Some seafarers could cite direct experience of crew agency intervention of a nature which they felt compromised the safe operation of a vessel. One, for example, described how aboard one ship the crew effectively ended up operating with one person too few in the engine room because the crew agency insisted that an incompetent seafarer remain on board rather than be fired and replaced. He described how:

A 3rd engineer could do nothing but clean the oil filter. It threatened the safety of ship if he continued to occupy his post. At that time, the crew agency rang the ship and suggested to the C/E to take any measure except send the crewman home. To avoid offending the agency, the C/E made a decision that the 3rd engineer was not allowed to enter the engine room but stay on the deck until his contract completed. (Officer)

Here again guanxi appears to come into play as nepotism, an element of guanxi, could fuel the promotion of seafarers who might be regarded by others as not yet fit for advancement. The following account was illustrative of the kinds of practices that were reported and the ways in which they impacted upon on board seafarer relationships, guanxi and perceptions of risk and safety:

Interviewee: The impact of guanxi on Chinese seafarers cannot be underestimated whatever they board, Chinese or foreign-owned ships. For a rating, if you are good at communication with senior officers, it is certain that you have more chances to be promoted as AB, Bosun or Pumpman. On the other hand, some crew managers may ask the ship to promote their relatives although the latter may not be qualified or not strong enough for the new post.

Interviewer: *Does it influence safety?*

Interviewee: Yes, this is a case of a pumpman who was promoted just because he was a relative of the crew manager. He knew nothing about the deck work because he was an oiler. Soon after his promotion, he got a minute injury caused by the leakage of hot steam because he did not follow the operation procedure properly. Without learning the lesson from this accident, he had a bigger accident later. This was caused by his carelessness: he did not shut down the door in the forecastle tightly, resulting in a flood there later due to bad weather. To ensure navigation, a group of deck crew was sent to the forecastle for an emergency operation. Unfortunately, all crew members were hit down by a big wave, and one was seriously injured as he was thrown up in the air and fell down the deck with a serious break of his pelvis.

Interviewer: *The case you mentioned indicated an improper intervention from the crew agency.*

Interviewee: Yes, the ship is very vulnerable once the intervention from the crew agency took place which influenced the crew's guanxi. We fear such intervention.

Interviewer: *Is this still an issue for Chinese crew boarding foreign ships?*

Interviewee: Yes, it is a common issue. In the case I mentioned earlier, it was due to his special background that many crewmembers liked to show special respect to him, leading to a small grouping beyond the normal working relationship. This was a constraint from the strict safety management on board.

In this case favouritism, fostered by a concern with *guanxi*, appeared to have facilitated the promotion of the individual concerned and also to have influenced the on board behaviour of some other seafarers who appeared to cut him some slack in relation to his careless work practices ultimately resulting in a serious accident. There is a sense in the account of the issue dividing the crew and disrupting the harmony on board, something which most seafarers described as highly undesirable and as a problem in terms of safe operations on board.

The competitive nature of the labour market also seemed to influence on board behaviour in others ways which could impact on safety. Seafarers recognised the need for others to share their knowledge and understanding with them in order to assist them in learning. A cadet for example explained that:

Interviewee: The most effective way for onboard learning is that they instruct you to do some crucial operations completely. Just recently for instance, an engineer offered a comprehensive explanation of the procedure for preparing the main engine for navigation.

Interviewer: *How often do you have such opportunity?*

Interviewee: It is dependent upon your own attitudes and efforts. If you are arrogant and lazy, nobody likes to help you. If you work hard and take every job seriously, you will gain reward from experienced crew who would be willing to pass their experience and skills to you. You would benefit a lot, in particular, if they show and explain a complete process in equipment repair or maintenance, which gives you an overall picture and also key techniques/know-how instead of general information. (Cadet)

However, a number of seafarers talked of the 'protection' of skills and knowledge by some colleagues unwilling to teach others for fear of future competition from them for their job. The phrase of 'taking over their rice bowl' was used by an engineer to evocatively describe the fears and attitudes of some seafarers conscious of the temporary status of their contracts and the competitive nature of the labour market:

In the Engine Room, it is normal that people join together to fix machinery or equipment. This is an opportunity for us to learn from each other, and in

particular for those who are preparing themselves to take charge of the machinery and equipment once they are promoted. Whilst many people like to teach you without reservation, some are not open to do so because they fear that you may take over their “rice-bowl” [job]. ...I have experienced working with such kind of persons.

(Engineer)

The account of a Bosun echoed this when he responded to a question relating to sharing of knowledge:

Interviewer: Do all experienced crew share a similar approach with you in terms of sharing knowledge and experience?

Interviewee: I don't think so. In fact, many people try to avoid doing it. It is a slogan: “once an apprentice has got all skills from his master, the master would end his business”. Taking into account the labour market competition, skill development and promotion of ABs may mean the decline of employment opportunities for the current Bosun. This is the reason why many Bosuns are reluctant to transfer all their knowledge and skills to their subordinates. (Bosun)

There was also a suggestion that labour market conditions discouraged seafarers from seeking knowledge from others for fear of exposing their own ignorance. An older seafarer recognised this as a generational difference but it seems likely that the change in behaviour which he identified as relating to time also reflects changes in the nature of employment and a clear awareness amongst all seafarers of the precarious nature of their employment status. The seafarer reflected that:

I gained such feeling from the first, my master, an experienced fitter who taught me a lot when I was cadet. It is rare for young seafarers today to talk about their mistakes. Rather, they would like to show that they are perfect even if they had actually made mistakes. This is certainly different from old ones. (Engineer)

The influence of previous experience in the domestic fleet

Many Chinese seafarers have entered the global labour market having been initially trained by, and within, state owned shipping enterprises (see Wu 2006; Wu *et al*, 2006). Previous experiences are likely to impact upon perceptions of risk as seafarers contrast the practices of their current companies with the practices they have previously been familiar with. Such contrasts may impact favourably, or unfavourably, on seafarers' risk perceptions. In the main seafarers in this exploratory study seemed to feel relatively 'safe' on board their current vessels as a consequence of the comparisons they made with what they considered to be the relatively unsafe ships aboard which they had previously served. In the main they appeared to regard the practices of their former employers as more risk prone than those which they experienced aboard their current vessels. The following example of an account given by a senior officer is illustrative:

You may not know that "the segmentation of the three powers" was popularly practiced in the Chinese fleet in the past. That means that the Captain concentrates on the bridge, the Chief Officer on the deck and the Chief Engineer on the Engine Room. If all leaders focus on departmental interests without close cooperation, you might as well divide the ship into three pieces! In our company, it is different. (Senior officer)

Whilst this finding is likely to reflect the nature of the two ships aboard which the researcher sailed (both of which were operated by what might be termed companies at the 'top end' of the labour market vis a vis safe working practices and safe vessel management) it is also illustrative of the ways in which perceptions of risk are relative and, as such, require contextualisation if they are to be properly explored and understood. The example serves to highlight the fact that to understand risk perception as simply *culturally* mediated (i.e. pertaining to specific ethnically rooted group values, traditions, beliefs) is inadequate in itself and the understanding of structural issues relating to labour markets, management practices, shore-side industry safety records, education and training, and so forth is essential to any successful attempt to explain national variations in risk perception.

Conclusions

Consideration of the extended example of Chinese seafarers aboard fully Chinese-crewed ships offers us an insight into the influences on seafarers' perceptions of risks aboard. It is apparent in the discussions amongst seafarers, and between seafarers and the researcher, that a variety of issues impact upon safety perceptions at sea. These include what might be regarded as 'general knowledge' about shipping such as an awareness of technological advances, consideration of shipping specific risks such as piracy, and an understanding that ships are remote and isolated work places where help and assistance are not easily accessed when things go wrong. Crucially however it seems that what might be termed 'local context' is very important in shaping seafarers' perceptions. 'Local' considerations are wide ranging and include the policies and practices of individual employers, the behaviour and attitudes of shipboard colleagues, and the impact of local labour market conditions.

The form and content of localised relationships needs to be carefully considered in any effort to understand perceptions of risk whether a greater understanding is sought in relation to national differences or other variations such as those between seafarers of different rank or department. What this small scale preliminary study begins to reveal is the ways in which risks are understood, by seafarers, to be mitigated or exacerbated by organisations, or individuals; the importance of past experiences in gauging risks which are perceived in a relative manner; and the impact of structural conditions on safety behaviour and perceptions of danger.

The research therefore indicates that the specific context of seafarers' experiences, which can be conceived of within national frameworks, impacts significantly upon their perceptions of risk. Thus national differences in risk perception may be understood in relation to national economic conditions, national shore-based safety practices and regulations, national labour market conditions etc. What the research has yet to clearly indicate is any significant impact of national *cultural* understandings (i.e. national beliefs, values etc) on perceptions of risk and by extension on safety-related behaviours. Guanxi is understood by Chinese seafarers to be specific to Chinese culture but it nevertheless resonates with aspects of other national cultures and cannot be seen to be wholly unique. The role of guanxi on-board merits further

exploration however. It is hoped that further research in this area will assist us in developing our understanding of the risk perceptions of seafarers more generally, of Chinese seafarers in particular, and of overall national differences in risk perception.

References

- Bailey, N., Ellis, N., Sampson, H. (2006) "Perceptions of Risk in the Maritime Industry: Ship Casualty", SIRC: Cardiff University. Online: <http://www.sirc.cf.ac.uk/>
- Bailey, N., Ellis, N., Sampson, H. (forthcoming) *An Analysis of perceptions of Risk Concerning Ship Level Casualty and Personal Injury in the Maritime Industry* Cardiff: SIRC
- Bloor, M (2005) Observations of shipboard illness behaviour: work discipline and the sick role in a residential work setting, *Qualitative Health Research*, 15 : 766-777
- Clarke, S (1998) 'Safety Culture on the UK Railway Network' *Work and Stress* 12 pp 285-292
- Conchie, S.M., Donald, I.J., 'The Role of Distrust in Offshore Safety Performance' *Risk Analysis* Vol 24 No. 5 pp 1151-1159
- Cox, S., Jones, B., Collinson, D. (2006) 'Trust Relations in High-Reliability Organizations' *Risk Analysis* 26 No. 5 pp 1123-1138
- Fleming, M., Lardner, R. (2001) *Behaviour modification to improve safety: Literature review* Suffolk: HSE books
- Lee, T., Harrison, K. (2000) 'Assessing Safety Culture in nuclear power stations' *Safety Science* 34 61-97
- Perez-Mallaina, P.E. (1998) *Spain's men of the sea: daily life in Indies fleets in the sixteenth century*. Baltimore: John Hopkins University Press.
- Sampson, H. (2003) 'Transnational Drifters or Hyperspace Dwellers: An exploration of the lives of Filipino seafarers aboard and ashore' *Ethnic and Racial Studies* Vol. 26 No. 2 pp 253-277.
- Wu, B. (2006), "Transformation from traditional to global seafarers: An Assessment of Chinese seafarers in the global labour market", paper prepared to 2006 Shenzhen International Maritime Forum, 19th-20th April, Shenzhen , China.
- Wu, B. Lei, K. H., and T.C. Edwin Cheng (2006). "Emergency of 'new professionalism' amongst Chinese seafarers: empirical evidence and policy implications", *Maritime Policy and Management*, 33(1): 35-48.