

# CULTURAL INTERPRETATION OF HEALTH AND SAFETY AND ITS APPROPRIATENESS IN THE UNITED ARAB EMIRATES

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In the UK we have a highly regulated construction industry to ensure health, safety and welfare of individuals in the workplace. Yet we still have an unacceptable number of fatalities and accidents. The expectation of professionals when they work abroad is that if the industry is not as regulated then it is not adequate. The research aim was to assess the health, safety and welfare in the construction industry within the United Arab Emirates and explore whether the current provision was adequate following on from the recent construction boom experienced in the region. An online questionnaire survey was carried out with construction professionals with experience of working in the UAE. The sample set produced 101 respondents, from 18 different countries, which provided a wide range of perceptions within the resulting data. The findings from the research provided evidence of a clear division emerging between European participants and respondents from other nations on how they perceived the observed standards within the UAE. The main conclusion drawn from the study is that cultural differences do affect how people perceive health, safety and welfare standards, as they judge what they see from what they are used to in their respective home countries.

Keywords: cultural perceptions, health and safety, United Arab Emirates.

## INTRODUCTION

The United Arab Emirates (UAE) was formed 40 years ago after formally being known as the Trucial States. The region consists of seven emirates, which include the cities of Abu Dhabi, Dubai, Sharjah, Ras Al Khaimah, Fujairah, Umm Al Quwain and Ajman. In 2010, the UAE's population was estimated at around 5 million, of which less than 20% were believed to be UAE nationals or Emiratis, while the majority of the population were expatriates (Migration Policy Unit, 2011). The UAE has recently spent billions of dollars on infrastructure and is the biggest projects market in the region, accounting for 37% of total project value within the construction, oil and gas, petrochemicals, power and water and waste sectors (Matly and Dillon, 2007).

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The Construction Industry is often considered a hazardous environment in which to be employed (Al Kaabi 2001). With these hazards come inherent dangers, which can often cause injury and sometimes death to workers. The UAE is one of the most rapidly growing and most developed countries in the Middle East and with this has come frequent accidents (Al Kaabi and Hadipriono 2003). Information regarding health and safety can often be difficult to find due to the sensitive nature and in the UAE it is even more difficult due to the lack of appropriate Regulation and reporting processes. Turley, D *et al.* (2011) identified that onsite safety has a poor reputation in the region, with accidents unreported and a wide-spread belief that regulation is non-existent. It is believed that many work related accidents and deaths in the UAE, particularly in construction go unreported (Hadid 2005). The aim of the research was to investigate the levels of health, safety and welfare provision within the UAE and how this could be improved to reduce accidents and fatalities.

The research commenced with an extensive search of relevant literature on health and safety within the Middle East which identified specific issues to the UAE briefly identified in the paper. Primary data was collected through an online questionnaire to ascertain whether health, safety and welfare standards are adequate for the construction industry in the UAE. The survey was launched to construction professionals with experience in the UAE's construction industry and managed to encapsulate respondents from a wide variety of countries and cultural backgrounds. The data was analysed and cross referenced to discover patterns and trends that emerged from various categories. One of the key findings from the survey was the geographical location of the respondents was a differentiating factor when analyzing the data this led to the conclusion that different cultural backgrounds do impact on how individuals perceive health and safety and welfare standards.

## **HEALTH AND SAFETY ISSUES IN UAE**

The literature review identified the following main areas that impact on health and safety and welfare in the UAE:

### **Communication - Migrant Workers**

Good communication is important in all aspects of the construction industry, but even more so when considering health and safety particularly as it can display so many risks to an operative's own health and safety. In UAE, with the majority of construction workers being migrant labour and unable to converse in what is generally the universal language of English, communication can be even more important. Also the migrant workers come from a wide variety of backgrounds with regard to their construction experience and education which can also cause a problem with a lack of understanding of the health and safety issues (Ghaemi 2006). Barss *et al.* (2005) identified that high levels of severe occupational injuries were apparent among migrant workers in the UAE.

Safety and the safe working conditions of these labourers is a growing concern, where they are either dying from heat exhaustion or from falling off the high rise buildings that they are constructing (Matly and Dillon, 2007).

### **Climate**

The climate is very hot and humid in UAE and in the summer (June, July and August) temperatures exceed 50 degrees centigrade along with relative humidity of 100% (Shanks and Papworth 2001). Despite this workers are expected to perform their duties in exposed areas for long periods and consequently it is not unusual to see

workers collapsing onsite through heat exhaustion. Sankar (2005) identified that research figures showed that as many as 5,000 construction workers per month were brought to accident and emergency of Rashid Hospital in Dubai, during July and August of 2004, suffering from symptoms relating to heatstroke. Ramsey (1983) and Shanks and Papworth (2001) identified that the risk of accidents increase with extreme temperatures as mental confusion can develop and predispose workers to perform unsafe acts.

### **Management**

According to Kartam (1997) accidents arise from different causes that can generally be classified as physical incidents posing hazardous situations, and behavioural incidents caused by unsafe acts. The construction process itself is also seen as being poorly planned in terms of both design and construction, with major inadequacies relating to the erection, maintenance, and demolition of buildings and structures (Cooke and Williams 1998). An underlying belief is that the majority of accidents are not caused by careless workers but by the failure in control, which ultimately is the responsibility of management (Baxendale and Jones 2000). Al Kaabi and Hadipriono (2003) also identified that companies in the region are deficient in providing workers benefits, site orientation, personal protective equipment, accident prevention, health and hygiene. These are all areas of good health and safety management that construction organisations should be providing.

### **New Initiatives**

The most significant development was the launch of Abu Dhabi's environment, health and safety management system (EHSMS) which began to gain pace in 2011. This was to transform both working conditions and the country's reputation for delivering "world-class" construction (Turley *et al.* 2011). The regulations were developed to unify the standards implemented by the companies who come to operate in the UAE from around the world. Although the new Regulation is seen as a positive step, the industry concern is the aspect of compliance with the new systems and how they are to be enforced (Turley *et al.* 2011). Under UAE law, the Ministry of Labour Inspectors are to ensure that employers properly comply with health and safety regulations. Keane and McGeehan (2008) identified that the ministry employed only 140 inspectors to oversee the practices of over 240,000 companies making it very difficult to enforce the regulations across the whole of the UAE Industry.

The code of construction safety practice implemented across the UAE in 2011, is a single code which is quite descriptive, clear and explanatory and has some similarities with UK Health and Safety Executive guidelines. Previous to this code, each municipality had different regulations and practices, with different approaches being taken by different companies operating in the region based on their home working practices. Having one code will eradicate the current problem that exists in Dubai, where there are several regulatory authorities applying different rules within their respective operating zones (Schuster 2011).

## **RESEARCH APPROACH AND DATA COLLECTION**

According to Fellows and Liu (2008), empirical work is concerned with knowledge gained from experimentation with much of that knowledge being gained through experience. It involves observation, evaluation, memory, and recall. All four activities include problems of selection and accuracy, so it is believed experience is unlikely to be totally reliable (Fellows and Liu, 2008). Personal experience allowed opinions to

form but this represents only one person's perception of how the industry operates in the region in terms of health and safety, so a wider audience was targeted. It was therefore important to find construction professionals with varied years of experience, and from differing construction disciplines, in order to obtain a wide variety of information and opinions. An attitudinal approach to the research was used, to 'subjectively' evaluate the 'opinion', 'view', or the 'perception' of each person, towards the particular topic (Naoum, 2007). An online questionnaire survey was chosen as the best method of data collection due to the location of the target population i.e. professionals predominantly working in UAE.

The questionnaire was designed to mix dichotomous and scaled questions to allow quantitative analysis. The scaled questions used a five point Likert Scale and allowed a qualitative response, a cognitive attitude statement, to be used as a quantitative variable for analysis (Oppenheim, 1992). The questionnaire had two sections; personal information and health, safety and welfare, and a total of thirty questions.

The questionnaire was piloted with industry professionals working in the UK who had previous experience of working in UAE. The questionnaire was published through Bristol online surveys. This allowed a structured questionnaire to be produced that could be easily navigated by its participants, in order to make the task simple. This led to greater participation from recipients. The method of data collection ensured each person was asked the same question in the same way, so that differences in answers could be held to be the real ones, unlike in an interview situation (May 2001). Ornstein (1998) suggested that despite this, even with the most carefully designed and tested questions, [it] is too imprecise to expect exactly uniform communications.

A form of snowball sampling was applied where a network of contacts were used as the initial sample and they were asked to distribute to their colleagues in the same organisation or professional field working within the UAE, hence expanding the sample creating the snowball effect. The original network considered of 60 personal contacts working in various construction organisations and professions in the UAE and 15 contractor and consultancy organisations in the region that were not part of the personal contacts. The advantage of this method was that it would increase the response rate that would be difficult to do due to geographical location of not being based in the UAE for data collection. A disadvantage of the snowball sampling technique however is the selection of the individuals at the first stage. If they have strong views on the particular subject they can influence the individuals in the second stage and the study can become biased (Kumar, 1999). The inclusion in the sample of the 15 contractor and consultancies with no personal contact was to reduce this possible bias. All of the individuals in the sample were contacted by email with a link to the online survey and the request to pass the survey on to fellow colleagues within their organisation and/or professional field.

A total of 101 responses were received allowing some statistical analysis through SPSS to be completed. The majority (55.4%) of respondents belonged to the 31-40 age group and although there were a varied number of professional roles the majority (43%) were in a Project, Construction Manager or Surveyor role.

## **RESEARCH FINDINGS**

The literature review identified specific areas of health, safety and welfare concerns that are particular to the UAE that were further examined through the data analysis.

The variety of nationalities that participated in the survey, 18 different nationalities from across the world, reinforced the literature on the high number of migrant workers in UAE and provided valuable perspectives from differing cultural backgrounds. Outside of the UK and Ireland (62%), 17% were from the Indian Continent (India, Bangladesh, Sri Lanka), 7% from the Philippines, 4% from Eastern Europe (Bosnia, Macedonia, Serbia), 4% Middle East (Egypt, Syria, Palestine, UAE) and 3% Africa (South Africa, Zimbabwe). The high number of responses from UK and Ireland was expected due to the sample collection method.

*Perceptions on Health Safety and Welfare in UAE*

88% of the total sample strongly agreed or agreed to the question, do you think cultural differences and attitudes towards health, safety and welfare contribute to the standards observed in the UAE. Table 1 shows a breakdown of these results by geographical location of the respondents.

Collectively respondents originating from the UK and Ireland were generally agreeable with the question and a combined 90.3% of this group felt the statement was valid. The majority of respondents representing other nations also felt that the statement was valid with 69.2% of this group classification being agreeable. The chi-square test produced a value less than the benchmark of 0.05 (0.00026) which suggests that there was a significant difference between the expected and observed result. It was expected that the other nation’s category would believe that cultural differences did not influence health and safety standards, however the majority of this category felt this factor contributed.

Response Options	UK and Ireland	Other Nations	Total	%
Strongly Agree	28	5	33	32.67
Agree	28	22	50	49.50
Neutral	2	6	8	7.92
Disagree	3	6	9	8.91
Strongly Disagree	1	0	1	0.99
Total	62	39	101	

*Table 1: Cultural differences and attitudes: Distribution of responses from differing geographical locations.*

The question how do you compare health, safety and welfare standards in the UAE compared to your home country was asked to assess the respondent's perception on the standard of health, safety and welfare within the UAE. Respondents originating from Europe (95.3%) believed that health and safety standards are higher in the construction industry within their home countries. 77.7% of the respondents from the other nations outside Europe thought that the UAE provided better standards for health and safety than in their home countries. The chi-square test produced a value of 8.164 more than the benchmark of 0.05 which statistically proved that there was not a significant difference between the expected and observed result.

*Most Significant Contributor to Accidents*

Respondents were asked to identify which they thought contributed to the most accidents between lack of experience and training and unsafe design practice that were identified by Ghaemi (2006) and Mohamed (2001) respectively. Overwhelmingly

(92%) of respondents agreed with Ghaemi (2006) that lack of experience and training was the most significant contributor to accidents.

The respondents were asked to rate in order of significance the following 3 options which influence the causes of construction related accidents.

- Poor Management Control
- Careless Worker
- Poor planning of the design and construction stages

The results indicated that poor management control was the most significant and poor planning of the stages was the least significant of the options. This contradicted the views of Baxendale and Jones (2000) that accidents were not significantly caused by careless workers, and that poor planning of the construction and design stages was the key contributor to accidents in construction.

To the question, there is a perception in the UAE that many work related accidents and deaths in construction go unreported, 55% answered yes they thought this statement was valid. This concurred with the views of Kean and McGeehan, 2008 and Hadid, 2005 that a lot of accidents go unreported. 18% decided they would rather not comment, which leads to the conclusion that despite the statement being controversial it contains a strong element of substance.

*Table 2: Order of Importance of the contributing factors that affect sound health and safety culture within construction organisations*

	Factor
Rank 1=	Senior Management Influence
	Workforce Attitudes
Rank 3=	Regular Training
	Site Management Team Cohesion
Rank 5	Awareness of Legislation

Table 2 identifies the results of the rating of the factors in contributing to a sound health and safety culture. All category options to this question were viewed as having significant importance, as all have a part to play in providing a sound health and safety culture within construction organisations. However, Senior Management Influence and Site Management Team Cohesion could be viewed as the most important as they influence the other three options. In other words if senior management and site management provide the correct standards and procedures for their respective construction workforce the other factors will then be provided for. The respondents did identify this with Senior Management Influence being ranked joint first.

To test the effectiveness of the UAE's Code of Construction Safety Practice, the questionnaire asked 'it is believed that the regulations relating to construction health and safety are broadly based on the UK practices, do you feel they have the same desired affect when implemented in the UAE'. As the sample was expected to have a high percentage of respondents from UK and Ireland with a knowledge of HSE guidelines, the result would indicate whether the regulations are being implemented by the UAE Construction Industry. 55% of respondent's expressed that the regulations in the UAE did not have the same desired effect as in the UK. 21% were unsure and

this result is due to 38% of the respondents being from outside the UK and Ireland and with no experience of UK practices.

The effectiveness of the Code is also linked to enforcement. The Ministry of Labour have powers to ensure that employers properly comply with health, safety and welfare regulations and the questionnaire asked 'do you feel there are adequate resources to carry out this role'. 72% believed that adequate resources are not available and this concurred with Turley *et al.* (2011) as a major concern.

## **CONCLUSIONS**

This research was undertaken with the aim of discovering whether provision for health, safety and welfare is adequate within the UAE's construction industry. By identifying the main issues, these could then be linked to possible factors that affect sound health and safety culture within the construction industry. The literature review and the survey results identify the following key areas that need to be improved within the UAE Construction Industry to improve its health, safety and welfare record:

- Management on Site to include area's of control, communication and training
- Improved working conditions during peak summer months
- Better enforcement of regulations - increased municipality resource to inspect construction sites and welfare accommodation

The UAE Construction Industry involves mainly migrant workers at all levels and this adds to the requirement to ensure that there are clear consistent communication methods that are appropriate to the circumstances. This could improve the health and safety training that is required for the majority of the migrant workers that are uneducated and inexperienced. Through better training of these workers on the health and safety issues on site, this will reduce accidents. This training could also improve the health, safety and welfare culture of the management in the construction organisations as different standards are expected based on the home country experience. This training and consistent communication will also improve control.

The main finding that was not identified within the literature review was that cultural background has a bearing on how people perceive the standards within the UAE's construction industry. The results of the survey provided a divide between Europe and the developing nations with regard to how they viewed the UAE's standards. Participants emanating from western countries perceived the standards as lower than their respective countries, whereas other nations felt the UAE provided superior standards to those experienced on home soil. This therefore makes it difficult for the UAE to improve its health, safety and welfare record without regulation that sets a common standard for all construction organisations to meet and that is enforced.

The next stage of the research will be to investigate further the cultural aspect through an analysis of literature specifically looking into cultural aspects within construction and in the UAE followed by a series of interviews in the UAE with construction professionals and workers. It will also assess the Environment, Health and Safety Management System (EHMS) and their enforcement to assess if a common approach has improved health and safety within Abu Dhabi and UAE.

## **REFERENCES**

- Al-Kaabi, N. and Hadipriono, C. (2003) Construction Safety Performance in the UAE. *Civil Engineering and Environmental Systems*, **20** (3), 197-212.

- Al-Kaabi, N (2001) Improving Safety Performance in Construction Site Operations in the UAE. A Master Thesis at the Ohio State University.
- Barss, P. Addley, K. Grivna, M. Stanculescu, C. and Abu Zidan, F. (2005) Occupational injury in the United Arab Emirates. *Occupational Medicine*, **59** (7), 493-498. Oxford Journals.
- Baxendale, T, and Jones, O. (2000) Construction design and construction management safety regulations in practice-Progress and implementation. *International Journal of Project Management*, **18**(1), 33-40.
- Cooke, B. and Williams, P. (1998) *Construction planning, and programming*, 1st Edition, Wiley-Blackwell, Chichester.
- Fellows, R. and Liu, A., (2008) *Research Methods for Construction*, Wiley Blackwell, Oxford.
- Ghaemi, H. (2006) Building Towers, Cheating Workers: Exploitation of Migrant Construction Workers in the UAE. *Human Rights Watch* **18** (8) (E), New York.
- Hadid, D. (2005) Work Related Accidents and Deaths or Injury of Workers Going Unreported. *Gulf News* 21st July.
- Kartam, N. (1997). Integrating safety and health performance into construction CPM. *Journal of Construction, Engineering and Management*, **123**(2), 121-126.
- Keane, D and McGeehan, N (2008) Enforcing Migrant Workers Rights in the United Arab Emirates. *International Journal on Minority Group Rights*, Volume 15, Number 1. Martinus Nijhoff Publishers.
- Kumar, R. (1999) *Research Methodology: A Step-by-Step Guide for Beginners*, 2nd Edition, Sage Publications, London
- May, T. (2001) *Social Research-Issues, methods and process*. Third Edition, London.
- Matly, M. and Dillon, L. (2007) *Dubai Strategy: Past, Present, Future*. Harvard Business School.
- Mohamed, S. (2001) Safety Climate in Construction Site Environments. *Journal of Construction, Engineering and Management*, **128**(5), 375-384.
- Naoum, S.G. (2007) *Dissertation Research and Writing for Construction Students*, Butterworth-Heinemann, Oxford.
- Oppenheim, A. N. (1992) *Questionnaire Design, interviewing and Attitude Measurement*, Pinner, London.
- Ornstein, M. (1998) Survey Research, *Current Sociology*, **46** (4): 1-135.
- Migration Policy Unit (2011) Population statistics, [www.migrationinformation.org](http://www.migrationinformation.org) [Accessed 15th July 2011].
- Sankar, A. (2005) Law Banning Construction Work in Afternoon's urged. *Khaleej Times*, June 10th.
- Schuster, P. (2011) The Only Way is Up, Health and Safety Middle East, [www.hsmemagazine.com](http://www.hsmemagazine.com) [Accessed online, 22nd July 2011].
- Shanks, N.J. and Papworth, G. (2001) Environmental factors and heatstroke, *Occupational Medicine*. **51**(1) 45-49,
- Turley, D., Wyngaard, J.V., Merri, A., (2011) The Big Project Middle East (May 4th, 2011) Safety Circus, [www.thebigprojectme.com/2011/05/04/safetycircus/](http://www.thebigprojectme.com/2011/05/04/safetycircus/) [Accessed online, July 10th 2011].