PROFESSIONALISM and EXCELLENCE for the FUTURE

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World Safety Organization

Headquartered in Warrensburg MO USA, the World Safety Organization (WSO) is a global community of people dedicated to “Making Safety a Way of Life … Worldwide” since 1975. In Consultative Status with the United Nations and having National Offices and Chapters in over 20 countries, WSO has the reputation and reach to bring together diverse safety professionals and practitioners who are transforming the world’s corporations, organizations, and communities to meet tomorrow’s critical challenges.

The WSO’s purpose is to internationalize all safety fields, including occupational and environmental safety and health, accident prevention, etc., and to disseminate throughout the world the practices, skills, arts, and technologies of the safety and accident prevention fields. With worldwide membership in the thousands, the WSO is undergoing a strong growth period. With individual referrals and recommendations from WSO members, there is continuous growth in membership and the pool of professionals seeking the WSO certifications.

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1985: WSO Professional Certification Program established in the USA
1987: Reorganized and relocated to Missouri, USA; World Management Center established in Missouri, USA
1997: WSO granted Consultative Status Category II (NGO) to the UN ECOSOC
2017: WSO Certification Program accredited in compliance with ISO/IEC 17024:2012 by ICAC

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Ballard Safety, LLC
Perry L. Ballard, Owner

Ballard Safety LLC is a full-service Safety Audits & Inspections, Environmental Services, On-site Safety Training, Health/Safety Program, Technical Safety Subject Matter Expert, and Emergency Preparedness firm focused on helping our clients meet their compliance requirements. Our core competencies provide our clients with a full set of safety services needed for them to be successful. We are able to provide a select group of highly qualified safety professionals and services to our clients in any industry nationwide.
Millennials and Safety: The Employment Game

Stephen S. Austin WSO-CSI(ML), CSHO
Site Safety Lead, Missile Defense Agency; Alabama, USA

Millennials – Safety – The Employment Game

The term "Millennial" has become the popular way to reference both segments of Gen Y (not a Y.1 and Y.2)
Arriving on the heals of Generation X, Millennials Generation Y have experienced a very different upbringing
- With a life style of parenting that managed every aspect of their lives with planned activities and structure. Generation Y has experienced a very different upbringing than the perceived instability of the Gen X " latch-key" kids.
- Growing up in a safety world where bicycle helmets are mandatory, inspecting your book bag is not an option, and cell phones are part of their daily accessories.
- If given a choice, Millennials will appear to choose the less risk route and safety is priority.

1. What makes a Millennial care? SAFETY that’s what protects them
- The World Trade Center Attack, Sandy Hook shooting, Oklahoma City bombing, mass shootings at Virginia Tech and Columbine; All demonstrating an increasing number of violent acts in the news.
- These acts of violence only makes sense that safety and self-preservation is a priority to them.
- According to the American Psychological Association, Millennials reported that personal safety is a stressor in their daily life and more importantly in their workplace, and they are more concerned about personal safety than possibly any other preceding generation in the workplace.


- Baby Boomers: Baby boomers were born between 1944 and 1964
  - They’re current between 55-75 years old (70 million in U.S.)
- Gen X: Gen X was born between 1965-1979
  - They’re current between 40-54 years old (32 million people in U.S.)
- Gen Y: Gen Y, or Millennials, were born between 1980 and 1994. They are currently between 25-39 years old.
  - Gen Y.1 = 25-29 years old (35 million people in U.S.)
  - Gen Y.2 = 29-39 (42 million people in U.S.)
- Gen Z, Gen Z is the newest generation and were born between 1995 and 2015.
  - They are currently between 4-24 years old (nearly 74 million in U.S.)


- EMPLOYMENT OF MILLENNIALS
  - Millennials have made it very clear, employers must expand funds to provide them with a stable work place and less stress.
  - Occupational Safety and Health professionals need to create safer workplaces, but to communicate about workplace safety in a way that resonates with GEN Y.1 and GEN Y.2.
- Games: Dick Tracy (depoly watches, 1-Pods, and stress balls), Free time to be supermen, all-ways to play in touch.
  - THE SAFETY COMMITMENT
  - The safety commitment, "Company X has to have safety checks for guns, knives, and bully free attitude safe guards at the company door.
  - Make it clear that workplace safety is a top priority.
  - Make access to all safety and security information transparent and accessible.
  - Use infographics to help communicate safety information.


- This is where Gen Y fits into the age group food chain:
- Baby Boomers: Baby boomers were born between 1944 and 1964
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Millennials – Safety – The Employment Game

* How to Attract a Millennial
  * A company should have millennials as employees who are in a position of leadership or have a clear path to becoming a senior leader or manager
  * Millennials are equally committed and hardworking; if they feel a sense of purpose and a meaningful connection to their team
  * Safety has become a buzz word on social media which is second nature to Millennials – if social media is the medium of choice exploit it
  * Use the platform to discuss a safety program and engage workers in the safety conversation. Conduct polls, share photos and stories on Facebook that demonstrate a commitment to safety, and encourage participation in the conversation

Millennials – Safety – The Employment Game

* Millennials love their phones and their phones are constantly in their hands, as if it were a permanent attachment.
* They check their phones immediately when they wake up, the phone is given more attention than actual people sitting at the dinner table, and their phone stores almost all of their entertainment, social life, and personal information.
* Their cell is a very important asset for them
  * Testing is the preferred form of communication for millennials – entire conversations can be had through text conversation

Millennials – Safety – The Employment Game

* BEST PRACTICES
  * BREAK THE SMARTPHONE ADDICTION
  * To really good these things with a smartphone, Simon Sinek says, “I really needed it to work myself off my phone with an exercise, to read the information, and then we were putting in our smartphone on a staff. One of the ways to get up and get physical and we like other people, the O’s, the P’s, the C’s. And I became really, really addicted.
  * And I just started to do a lot of stuff on there, just leave our phones at home. Or if I brought mine, I would use it in my car only. And I don’t think it was even though we have the phone, I was really good at the beginning and uncomfortable, and you definitely notice the workday. But after a little bit of time, I actually get lost in it.

Millennials – Safety – The Employment Game

* Their generation is the “I am entitled to it, whatever it is they are entitled to.” They are not afraid to work for what they want or need, but work only to get what they want.
  * In other words: overtime is out unless it is an absolute necessary
  * Any business thinking of hiring a Millennial should be using the best practices to communicate with them
  * Millennials like to feel as if they are partaking in something special – something that provides them with an actual purpose
  * Just offering safety as an alternative or service to them without a distinctive message will not work in any businesses favor

Millennials – Safety – The Employment Game

* TO GET AHEAD IN THE SAFETY BUSINESS:
  * Employees must develop an interactive component that puts a “fun” component to following safety practices with rewards
  * Give them something distinctive to do, such as working within their restricted bounds
  * Add humor into safety messages and illustrate your concern for your workers to be safe and enjoy lifes like the message

Millennials – Safety – The Employment Game

* Demonstrating the value of Safety is hard to quantify, showing Millennials they are a valuable resource to the workplace will in turn focus their energy into realism and productivity
  * There are at least one out of three workers now in the Millennium age range or more entering the workplace on a daily basis.
  * Information is power to each and every one of them

Millennials – Safety – The Employment Game

* Millennials have unprecedented access to seemingly infinite information at their fingertips
  * The days of hunting for information have passed, and generations to come are no longer going to sit for 8 hours in order to obtain information they can find themselves in 8 seconds

Millennials – Safety – The Employment Game

* DOS
  * Millennials see safety as the requirement to protect themselves as the Police are there to stop in-desolable acts of terrorism especially in the workplace: Engage Them
  * They are equally quick at solving problems be it physical or mental challenges and can tell you why it’s a problem just by looking at the situation or not. Challenge Them

Millennials – Safety – The Employment Game

* DON’ts
  * Arguing with a Millennial is a moot point. If the task shows they are correct most of the time. They need to be a part of their team
  * Their generation is constantly being asked to stay away, do it or not to it
  * Don’t take their cell away at work, they become nervous, suspicious, and ambivalent towards work.
Millennials – Safety – The Employment Game

- Training is not the way we are used to providing training for Millennials
- Millennials and later generations were born into a digital world. (These days, the time average Millennial American has turned 24, they’ve spent 5,000 to 8,000 hours playing video games, but only about 2,000 hours reading books)
- They’ve been fed on video games, and it means they learn and play differently from older generations.
- Millennials are totally comfortable with technology, and research has shown that they crave variety and media and are born multitaskers, so they cannot just sit and listen to a talking head, the way earlier generations were used to during training.

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Millennials – Safety – The Employment Game

- Millennials unique circumstances and background have led them to approach companies with a different perspective
- Experiences are what Millennials crave, so safety businesses must work to involve them within that company’s vision and mission in order to retain their employment.

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Millennials – Safety – The Employment Game

- What can companies do to address the specific needs of Millennial workers in an effort to retain them longer
  - Give them respect, attention and encouragement, and feedback that includes both praise and constructive criticism.
  - Adopt leadership style that emphasizes openness to questioning management, clearly defined expectations, and guiding vs. controlling the team.
  - Show concern for their personal lives, and accommodate the work-life balance they seek by organizing social activities at work, agreeing to alternative arrangements.

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Millennials – Safety – The Employment Game

- It makes sense for training programs to use games, since Millennials love and are already working that way
- Training games use techniques from the game world—rewards, points, badges, frequent feedback, progression through many levels, etc.—to make training more effective by making learning more fun.
- Active learning approaches, where the students have to interact with the material being taught, are associated with greater academic achievement.
- Anything that boosts employee engagement is good for business and training!

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Millennials – Safety – The Employment Game

- Gamification of Training
- Gamification can also change habits through repeated retrieval and spaced retrieval.
- Relevance practice forces learners to recall information, rather than just listen or read it.
- Spaced retrieval is providing the learner with a piece of course content spaced over time, and combined with retrieval practice it multiplies the effect and improves recall performance by as much as 35% to 50%.

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Millennials – Safety – The Employment Game

- What can companies do to address the specific needs of Millennial workers in an effort to retain them longer
  - Recognize that they tend to measure productivity in terms of work completed rather than number of hours worked and consider adjusting policies accordingly.
  - Provide opportunities for development, and strive to make full use of each worker’s skillset.
  - A recent study by the year revealed that only 28% of Millennials believe employers are making full use of their abilities, and they express a great deal of concern about their talents to work.
  - Understand how greatly the philosophy of startup culture has shaped what Millennials consider an ideal workplace, and employ as many key elements to your workplace model as possible.

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Millennials – Safety – The Employment Game

- Millennials are not totally bias to the workplace as it stands today
- Millennials don’t want to get out of everything that worked for previous generations.
- They do not want work demands interfering with their personal lives.
- They are open to accepting reduced compensation and relinquish opportunities for promotion, if it permits them to work fewer hours.
- They want good compensation.
- Fair benefits and good friends in the office.
- The chance to grow and develop.
- A few “out of the box,” thrown-in to sweeten the deal.
- Being praised in a layoff culture has led them to value loyalty a term of months, not years. Also, their mobile technology-centric lifestyles have made them view the traditional, 9-5, desk-sitting work arrangement as outdated.

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Millennials – Safety – The Employment Game

- CONCLUSION

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Millennials – Safety – The Employment Game

- Encourage their own leadership through reverse mentoring themselves Millennials to share their knowledge of technology or their unique approach to finding solutions, and involve them in inter-generational teams which benefit everyone.
1910.132-138 Personal Protective Equipment

Perry L. Ballard WSO-CSE/CSM, JD, MS, CSHM
Owner, Ballard Safety LLC; West Virginia, USA

1. **1910.132-138**

**PERSONAL PROTECTIVE EQUIPMENT**

2. **Objectives**
   - Purpose of personal protective equipment (PPE)
   - PPE requirements
   - Basics of selecting PPE

3. **1910.132-General Requirements**

   (a) Protective equipment, including personal protective equipment for:
   - Eyes,
   - Face,
   - Head, and extremities,
   - Protective clothing,
   - Respiratory devices, and
   - Protective shields and barriers

   Shall be provided, used, and maintained in a sanitary and reliable condition wherever it is necessary by reason of hazards of processes or environment.

4. **1910.132-General Requirements**

   (a) Includes:
   - Chemical hazards,
   - Radiological hazards, or
   - Mechanical irritants

   Encountered in a manner capable of causing injury or impairment in the function of any part of the body through absorption, inhalation, or physical contact.

5. **1910.132(d)- Hazard Assessment**

   (1)(i) The employer shall assess the workplace to determine if hazards are present, or are likely to be present, which necessitate the use of personal protective equipment (PPE)

   (1)(ii) If hazards are present the employer shall:
   (a) Select, and have each affected employee use, the types of PPE that will protect the affected employee from the hazards identified in the hazard assessment.

6. **1910.132(d)- Hazard Assessment**

   (1)(ii) Communicate selection decisions to each affected employee; and,
   (1)(iii) Select PPE that properly fits each affected employee
1910.132(d) - Hazard Assessment
(2) The employer shall verify that the required workplace hazard assessment has been performed through a written certification that identifies:
- The workplace evaluated;
- The person certifying that the evaluation has been performed;
- The date(s) of the hazard assessment; and,
- Which identifies the document as a certification of hazard assessment.

1910.132(f) - Training
- (1) The employer must train employees before issuing PPE
- Each employee trained to know at least the following:
  - When PPE is necessary;
  - What PPE is necessary;
  - How to properly don, stuff, adjust, and wear PPE;
  - The limitations of the PPE; and,
  - The proper care, maintenance, useful life and disposal of the PPE.

1910.132(f) - Training
- (2) Workers must demonstrate an understanding of the training and the ability to use PPE properly, before being allowed to perform work requiring the use of PPE;
- (3) Verify that each employee has received and understood the required training through a written certification that contains:
  - The name of the employee trained;
  - The date of training; and that
  - Identifies the subject of the certification;
- (4) When an employee has reason to believe that any employee who has already been trained does not have the understanding and skills required by paragraph (f)(2) of this section, the employer shall retrain each such employee.

1910.134(a)(1) - Permissible Practice
- Workplace respiratory hazards; dusts, mists, fogs, fumes, sprays, smoke or vapors
- Primary objective: Prevent atmospheric contamination
- 1st Priority: Engineering Controls:
  - Enclosure or confinement of the operation
  - General and local ventilation, and
  - Substitution of less toxic materials
- Only where engineering controls are not feasible should respirators be used.

1910.134(c)(1) - Respiratory Protection Program
Where respirators are required you need:
- Written Program
- Worksite Specific Procedure
Required elements:
- Training
- Fit testing
- Medical Evaluations
- Care and Maintenance
- Procedures for respirator selection
- Procedures for routine and emergency use

1910.134(c)(2) - Where respirator use is not required:
(i) If voluntary respirator use is permissible, provide the respirator users with the information contained in Appendix D and,
(ii) Establish and implement those elements of a written respiratory protection program necessary to ensure that any employee using a respirator voluntarily is medically able to use that respirator.
(iii) That the respirator is cleaned, stored, and maintained so that it uses does not present a health hazard to the user.

*Written program not required for voluntary use of dust masks
1910.134(e) Medical evaluations

- Using a respirator may place a physiological burden on employees that varies with the type of respirator worn, the job and workplace conditions in which the respirator is used, and the medical status of the employee.
- The following are minimum requirements for employee medical evaluations.

22 CFR 1910.95

Hearing Protection

1910.95 Noise Standard

- Action Level = 85 dBA TWA
- Requires a hearing conservation program
- Annual audiograms
- Training
- PEL = 90 dBA TWA
- Hearing protection is required

1910.135 Head Protection

24 Types of Hearing Protectors

- Earmuffs
- Earplugs
- Canal Caps

1910.135(a) General requirements

- Ensure that each employee wears a protective helmet when working in areas where there is a potential for injury to the head from falling objects
- The employer shall ensure that a protective helmet designed to reduce electrical shock hazard is worn by each such affected employee when near exposed electrical conductors which could contact the head.

1910.136 Foot Protection

26 1910.136(a) General requirements

- Ensure that each affected employee uses protective footwear when working in areas where there is:
  - A danger of foot injuries due to falling or rolling objects, or
  - Objects piercing the sole, and
  - Where such employee’s feet are exposed to electrical hazards.
Prevalence and Associated Factors of Frailty in Community Dwelling Older Adults in Rural and Urban Settings in South Lebanon

Prof. Dr. Elias M. Choueiri
General Director in the Ministry of Public Works and Transport; President of Lebanese Association for Public Safety (LAPS), Lebanon; Director, WSO National Office for Lebanon; Hazmieh, Lebanon
Populations are getting older

Worldwide, the populations are getting older. The number of people aged 60 years or older will rise from 960 million to 2 billion between 2015 and 2050 (comprising from 12% to 23% of the total global population). The following two maps show how populations will be changing in different countries around the globe.

2015
- Percentage aged 60 years or older
  - 10% or more
  - 5% - 10%
  - 1% - 5%
- 2050

There is no “typical” older person

Biological ageing is only loosely associated with person age in years. Some 80 year-olds have physical and mental capacities similar to many 20 year-olds. Others experience decline in physical and mental capacities at much younger ages.

Healthy Ageing is an investment, not a cost

In reality, older people make many positive contributions to society, health and social care expenditures for older people are an investment rather than a cost. These investments bring benefits to older people and returns for society as a whole.

Outline of the current presentation

- Introduction
- Background
- Research Objectives
- Methods and Materials
- Results
- Conclusion

Introduction

Lebanon is a small Middle Eastern country, with over 10.5% of the population being 65 years and older.

In Lebanon, family is an older adult’s main source of security in later life, with the government offering little if any support.

Introduction (cont.)

Prior to the civil war of 1975-1990, Lebanon, “the pearl of the middle east”, was celebrated annually for the peace and beauty it held.

The civil war destroyed much of its beauty and the accompanying peace for which it was known. The war has also destroyed the country’s economic health after it was considered “the banking center of the middle east”.

Priority areas for action

Comprehensive public-health action on ageing is urgently needed. Although there are major knowledge gaps, we have sufficient evidence to act now, and there are things that every country can do, irrespective of its current situation or level of development.
Introduction (cont.)

More than 2/3 of elderly persons have to rely on their families to be able to cover the cost of their chronic medications and hospitalizations.

Unfortunately for the aging population, the priority given to their issues since 2011 has been largely affected by the overwhelming and more immediately pressing needs of the Syrian refugees, of whom at least 500,000 are infants and children.

Old-age pensions, health insurances or indemnities are lacking for the majority of the older population.

Only 8.2 % of Lebanese elderly benefit from at least one type of health insurance, and among illiterate people the rate is only 5%.

Despite the large number of physicians (approximately 10,000), there is a shortage of primary care and geriatric physicians.

There are 16 nursing homes in Lebanon, with a total of 6,000 beds, but most of them are understaffed, with the exception of three nursing homes that offer relatively comprehensive services, including rehabilitative, preventive, and curative services.

Background (The ESCWA region)
19

figure 2: Prevalence of hypertension, diabetes, obesity and smoking among older Arabs by gender

20

table 4: Classification of ESCWA member States by ageing index, 2030 and 2050

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research objectives

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research objectives

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methods and materials

24

methods and materials

25

study results

26

figure 3: Frailty level distribution in urban and rural areas
Innovational Developments on Health & Safety Programs

Christian Mark Dimayuga
Corporate Safety Professional/IH Specialist; Manila, Philippines

1. Health & Safety

2. Innovational Development on Health & Safety Programs

3. Ice Breaker

4. Outline
   - 01 Statistics
   - 02 Programs
   - 03 Conclusion

5. Objective
   To provide additional knowledge by presenting some innovational health & safety programs.

   - The ILO estimates that 2.3 million men and women around the world suffer from work-related accidents or diseases every year; this corresponds to over 6000 deaths every single day.
Statistics: Asia

Every year more than 1.1 million people die from occupational accidents or work-related diseases in Asia and the Pacific.

THAILAND
1.7% (2018)

PHILIPPINES
1.7% (2019)

INDONESIA
1.2% (2018)

MALAYSIA
1.2% (2018)

SINGAPORE
0.5% (2019)

Health & Safety Program

“A health and safety program is a defined plan of action designed to prevent accidents and occupational diseases.”
- Canadian Center for Occupational Safety and Health (CCOSH)

“The main goal of safety and health programs is to prevent workplace injuries, illnesses, and deaths, as well as the suffering and financial hardship these events can cause for workers, their families, and employers.”
- Occupational Safety and Health Administration (OSHA)

Benefits

01 Improve compliance with laws and regulations

02 Reduce costs, increase productivity, and enhance overall business operations

03 Engage workers and enhance their social responsibility goals

04 Prevent workplace injuries & illnesses

Communication

Health promotion & education

Safety Risk Communication

Social Network

Posters & Email blasts

Gamification

Workplace safety games offer you a fun, budget-friendly, and memorable training tool.

- Help gain employees’ attention
- Ensure their understanding of company safety policies and procedures
- Motivate them to be part of the solution in achieving and maintaining a safe work environment

Surveys

Positive Responses

Need for Improvement

Net Promoter’s Score

Conclusion

Importance

- Promote a positive safety & health culture
- Help prevent injuries & disease
- Reduce financial loss resulted from injury or disease

Improving job satisfaction

Increasing productivity

Reducing absenteeism

Decreasing medical & disability leave

Salamat!
ROV Safety: Epidemiology, Risks, Hazards, Interventions, and Trends

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Associate Professor of Ergonomics and Safety, Montana Technological University; Montana, USA

1

ROV Safety: Epidemiology, Risks, Hazards, Interventions and Trends

David Gilkey, D.C., Ph.D., DABCO, DACBH, CPE, CSP, REHS/RS, FICC
Montana Technological University
World Safety Organization
Las Vegas, NV
October 7 to 9, 2019

2

Session Objectives

Those attending this presentation should be able to:

- List important details that underscore the magnitude of ROV related injury and fatality,
- Recall major epidemiological findings,
- Discuss some of the hazards associated with ROV use,
- Describe the common interventions, and
- Outline the trends in ROV sales and use.

3

ROVs Overview

1970 – 2019
Presently:
- 35 million Riders
- 11 million ROVs

ROV = ATV, UTV, Side-by-Side, SSV, OHRV, OHV, quadbikes, ...

4

ROVs Overview

- 78% Recreational use

- 22% Occupational use

5

Transportation

Efficient, Versatile, and Cheap Transportation

6

ATV Sizing, Weight and Speed

Child < 300 lbs
Transitional < 350 lbs
Adult ~ 700 lbs+
ATV UTV

ROV Fatalities

CPSC Fatalities in 1982 through 2019
> 15,250 deaths related to ATV / ROV use and activities in the US

ROV Injury in America

An estimated 400,000 injuries per year
An estimated 100,000 emergency room visits per year!

Loss of Control Incidents

Impaired rider
Riding on paved surfaces (~60%)
Rollover
Collision
Passenger
Wrong size
Lack of training
Modeling Risk Factors of ATV Fatalities in the United States

- Elise Lagerstrom,1 Sheryl Magzamen,1,3
- Lorann Stalones1,2,3, David Gilkey,1, John Rosecrance1,3

Figure 2: Reported ATV-Related Fatalities by Age Group (2006–2014)

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<th>Younger than 12</th>
<th>Age 12-24</th>
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<td>702</td>
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<tr>
<td>2007</td>
<td>806</td>
<td>802</td>
<td>702</td>
</tr>
<tr>
<td>2008</td>
<td>806</td>
<td>802</td>
<td>702</td>
</tr>
<tr>
<td>2009</td>
<td>806</td>
<td>802</td>
<td>702</td>
</tr>
<tr>
<td>2010</td>
<td>806</td>
<td>802</td>
<td>702</td>
</tr>
<tr>
<td>2011</td>
<td>806</td>
<td>802</td>
<td>702</td>
</tr>
<tr>
<td>2012</td>
<td>806</td>
<td>802</td>
<td>702</td>
</tr>
<tr>
<td>2013</td>
<td>806</td>
<td>802</td>
<td>702</td>
</tr>
<tr>
<td>2014</td>
<td>806</td>
<td>802</td>
<td>702</td>
</tr>
</tbody>
</table>

Note: This figure corresponds to the data reported in Tables 1 and 3. Reporting for 2015-2017 is ongoing, thus, Figure 2 does not display these years.

Emergency Room Visits

Table 5: Annual Estimates of ATV-Related Emergency Department-Treated Injuries

<table>
<thead>
<tr>
<th>Year</th>
<th>Estimated Number of All Ages</th>
<th>Younger than 10 Estimated Number of Injuries</th>
<th>Younger than 12 Estimate Number of Injuries</th>
<th>Younger than 12 Percent of Total Injuries</th>
<th>Younger than 12 Years of Injury</th>
<th>Younger than 12 Years of Injury to All Ages</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>36,800</td>
<td>9,900</td>
<td>11,700</td>
<td>31%</td>
<td>31%</td>
<td>31%</td>
</tr>
<tr>
<td>2008</td>
<td>36,800</td>
<td>9,900</td>
<td>11,700</td>
<td>31%</td>
<td>31%</td>
<td>31%</td>
</tr>
<tr>
<td>2009</td>
<td>36,800</td>
<td>9,900</td>
<td>11,700</td>
<td>31%</td>
<td>31%</td>
<td>31%</td>
</tr>
<tr>
<td>2010</td>
<td>36,800</td>
<td>9,900</td>
<td>11,700</td>
<td>31%</td>
<td>31%</td>
<td>31%</td>
</tr>
<tr>
<td>2011</td>
<td>36,800</td>
<td>9,900</td>
<td>11,700</td>
<td>31%</td>
<td>31%</td>
<td>31%</td>
</tr>
<tr>
<td>2012</td>
<td>36,800</td>
<td>9,900</td>
<td>11,700</td>
<td>31%</td>
<td>31%</td>
<td>31%</td>
</tr>
<tr>
<td>2013</td>
<td>36,800</td>
<td>9,900</td>
<td>11,700</td>
<td>31%</td>
<td>31%</td>
<td>31%</td>
</tr>
<tr>
<td>2014</td>
<td>36,800</td>
<td>9,900</td>
<td>11,700</td>
<td>31%</td>
<td>31%</td>
<td>31%</td>
</tr>
</tbody>
</table>

Injury By Body Part

- Head and neck: 27,300
- Neck: 27,000
- Arm: 16,700
- Back: 6,000
- Other: 6,000

The corresponding estimate for "other" does not satisfy reporting criteria.
OH Epidemiology

65% of Deaths are in Ag


Helmkamp, et al., 2011

Safety (2015)
Vol. 1
Pages 59-70
doi:10.3390/safety1010059

Table 2. Claims by industry group

<table>
<thead>
<tr>
<th>Industry</th>
<th>Number of Claims</th>
<th>Percent of Total Claims</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public Administration</td>
<td>25</td>
<td>15.5%</td>
</tr>
<tr>
<td>Construction</td>
<td>15</td>
<td>0.8%</td>
</tr>
<tr>
<td>Professional and Technical Services</td>
<td>12</td>
<td>5.0%</td>
</tr>
<tr>
<td>Administrative and Support Services</td>
<td>9</td>
<td>4.2%</td>
</tr>
<tr>
<td>Utilities</td>
<td>6</td>
<td>2.8%</td>
</tr>
<tr>
<td>Arts, Entertainment, and Recreation</td>
<td>4</td>
<td>1.9%</td>
</tr>
<tr>
<td>Education</td>
<td>3</td>
<td>1.4%</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>2</td>
<td>0.9%</td>
</tr>
<tr>
<td>Mining</td>
<td>2</td>
<td>0.9%</td>
</tr>
<tr>
<td>Retail Trade</td>
<td>2</td>
<td>0.9%</td>
</tr>
<tr>
<td>Not Classified</td>
<td>2</td>
<td>0.9%</td>
</tr>
<tr>
<td>Accommodation and Food Services</td>
<td>1</td>
<td>0.3%</td>
</tr>
<tr>
<td>Finance and Insurance</td>
<td>1</td>
<td>0.3%</td>
</tr>
<tr>
<td>Other Services</td>
<td>1</td>
<td>0.3%</td>
</tr>
<tr>
<td>Total</td>
<td>215</td>
<td>100%</td>
</tr>
</tbody>
</table>

Table 3. Cont.

<table>
<thead>
<tr>
<th>Description</th>
<th>Number of Claims</th>
<th>Percent of Total Claims</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fracture</td>
<td>58</td>
<td>27.6%</td>
</tr>
<tr>
<td>Sprain</td>
<td>57</td>
<td>26.9%</td>
</tr>
<tr>
<td>Contusion</td>
<td>49</td>
<td>22.8%</td>
</tr>
<tr>
<td>Strain</td>
<td>15</td>
<td>7.0%</td>
</tr>
<tr>
<td>Laceration</td>
<td>12</td>
<td>5.6%</td>
</tr>
<tr>
<td>Multiple Injury Types</td>
<td>7</td>
<td>3.3%</td>
</tr>
<tr>
<td>Concussion</td>
<td>6</td>
<td>2.8%</td>
</tr>
<tr>
<td>Dislocation</td>
<td>5</td>
<td>2.3%</td>
</tr>
<tr>
<td>Other</td>
<td>2</td>
<td>0.9%</td>
</tr>
<tr>
<td>Crippling</td>
<td>2</td>
<td>0.9%</td>
</tr>
<tr>
<td>Inflammation</td>
<td>1</td>
<td>0.5%</td>
</tr>
<tr>
<td>No Physical Injury</td>
<td>1</td>
<td>0.5%</td>
</tr>
<tr>
<td>Tendon (including hip and patella)</td>
<td>85</td>
<td>39.5%</td>
</tr>
<tr>
<td>Body Part Injured</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Multiple Injuries</td>
<td>43</td>
<td>20.0%</td>
</tr>
<tr>
<td>Head/Neck</td>
<td>34</td>
<td>14.9%</td>
</tr>
<tr>
<td>Lower Extremity</td>
<td>20</td>
<td>11.2%</td>
</tr>
<tr>
<td>Upper Extremity</td>
<td>16</td>
<td>8.2%</td>
</tr>
<tr>
<td>No Physical Injury</td>
<td>1</td>
<td>0.5%</td>
</tr>
</tbody>
</table>

ROV Risks and Hazards

Domains: Rider – Machine – Environment
- Impaired rider (50% – 80%) / Untrained rider
- Paved surfaces / Community roads (~60%)
- Steep slopes / Hills and valleys / Across hill
- Speed / MPH to 86+
- Uneven terrain / Sink holes
- Passengers / Rider +1, 2, 3, ...
- Obstacles / Other vehicles
- Moisture / Water / Mud
- Sun glare
- Maintenance of unit, etc.

State Allowing ROVs on Roads

Primary ROV Risks and Hazards in Ag
Interventions

- Training
- Education
- PPE
- Engineering
- Laws

**ASI Training for Common Hazards**

- Always wear a helmet
- Never ride on paved surfaces
- Never ride under the influence of alcohol
- Never carry passengers (unless designed for)
- Ride the correctly matched ROV
- Supervise riders < 16 yrs
- Ride only on designated trails
- Take the 5 hour hands-on RiderCourse / DriverCourse

**ROHVA**

- The ROHVA course includes additional skills such as backing up, safety tools, safety systems, unit dimensions, approach angle, departure angle, ramp angle, knowing your ROV drivetrain, rocky, muddy and/or sandy terrain, driving near trees and water crossings.

**ROV Golden Safety Rules**

- Always wear a helmet
- Never ride on paved surfaces
- Never ride under the influence of alcohol
- Never carry passengers (unless designed for)
- Ride the correctly matched ROV
- Supervise riders < 16 yrs
- Ride only on designated trails
- Take the 5 hour hands-on RiderCourse / DriverCourse

**ASI / ROHVA Training**

- PPE / Proper clothing
- Pre-ride check
- Start
- Stop
- Turns
- Up, down & across hills
- Obstacles
- Obey laws

**Education Products**

**ATV Safety**

- ATV Safety: The ROHVA course includes additional skills such as backing up, safety tools, safety systems, unit dimensions, approach angle, departure angle, ramp angle, knowing your ROV drivetrain, rocky, muddy and/or sandy terrain, driving near trees and water crossings.

**Safety (2015)**

Vol 1

Pages: 84-93
do:10.3390/safety101
### ATV Project - Web 2.0

Ken Nelson, MT Ag Extension Agent
Butch Taylor, Ph.D., Texas A & M

### Engineering and Design

- CPSC
- Safety
- Standard 2014
- Progressive design changes

### Engineering and Design Changes

- ROPS
ROV Users in Australia

- Quad-bikes (All-terrain vehicles) are used extensively within the agricultural sector for tasks including mustering stock, towing implements, and personal transport.
- Quad-bike accidents are the leading cause of occupational injury and fatality on farms (and ranches) and therefore warrant health and safety attention.


Major Trend of Great Concern

- Access to public roads increasing!

Star Rating System

- The ATV or quad bike and SSV, “Vehicle Star Rating” (VSR) system, was developed by scientists and engineers working in the Transport And Road Safety (TARS) research center at the University of New South Whales.

0/5 VS 3/5

(Grzebieta, Rechnitzer, McIntosh, Mitchell, Patton, and Simmons, 2015)

Star Rating System

- “The Star Rating system is intended to provide a ‘safety rating’ in that vehicles with higher star ratings will represent a lower risk of rollover and subsequent potential injury in the event of a rollover incident in the workplace environment based on the best currently available information”

(Grzebieta, Rechnitzer, McIntosh, Mitchell, Patton, and Simmons, 2015)

Research

ATVs / UTVs tested

Crashworthiness

Rechnitzer et al., 2013
Quad bike rules: WorkSafe back on the ROPS

WORKSAFE can force farmers who employ workers to fit superior protection devices to their quad bikes, but has no such power over owner-operators.

WorkSafe has repeatedly warned farmers they must fit a suitably designed and tested protection device to quad bikes, where there is a risk of rollover.

The Future

1. Increased awareness of safe ROV safe practices / operations
2. Train an army of trainers
3. Improved designs and safety features
4. Promote laws that address gaps
5. Conduct research and translate results to effective interventions

A review of the literature

- Training and education
- Engineering
- Laws
- Star Rating System

Contact Information

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Safety Incorporated into Emergency Response

Joann Jackson-Bass WSO-CSM, CSP
Principal Safety Professional, Mission Support Test Services (MSTS); Nevada USA

1. Emergency Responders and Safety
   - First on the Scene
   - Unknown Circumstances
   - Hazards:
     - Weapons
     - Fire
     - Chemicals
     - Radiological
     - People

2. Police Emergency Response
   - Recurring training is ongoing
     - Reality Based
     - Virtual Reality
     - Pre-loaded options are available for the officers so they can brush up on scenarios and become more competent in these situations
     - Training Facility
     - A large warehouse with store fronts and apartments, etc.
     - Joint training can be performed there
     - Also other city PD’s and Fire Department are able to use it

3. Emergency Responders
   - Police, Fire, and Radiological
     - This presentation covers these 3 organizations:
       - Police: Medical, crime, automobile, and the first goes on.
       - Fire: Fire and/or Medical emergency
       - Radiological: potential threat of radiation being generated to the public

4. Police Emergency Responders
   - Police responders are normally the first on the scene.
     - Highest hazard especially if gunfire is the potential
     - Training becomes the focus for police officers
     - Intra Academy
     - Then training one hired is comprehensive and 6 months long.
       - Reality Based
       - Virtual Reality
       - Include defensive tactics: 1000 hours
       - Weapons: 52 hours
       - Emergency Vehicle Operations (EVO): 40 hours training

5. Police Officer Integration
   - There are 3 phases once a police officer completes academy training
     - Each phase has a different aspect and a different part of the city covered.
     - First phase: The new police officer is shadowing an experienced officer/training officer.
     - Second phase: New officer is being involved in the response with an experienced officer/training officer.
     - Third phase: New officer is being shadowed by experienced officers/training officers.

6. Police Officer Protection
   - Police officers are issued
     - Uniforms
     - Tasers
     - Tear
     - Handcuffs
     - Pepper Spray
     - Radio Holders
     - Gas Masks
     - Bullet Helmets

7. Police Officers Protection
   - Police officers supply themselves
     - Sun
     - Flashlight
     - Tourniquet Holder
     - Sun Holder
     - Personal Ice Chests
Is Education and Training Required for Workplace Safety?

Dr. Janis K. Jansz RN, RM., Dip. Tch, BSc. Grad. Dip. OHS, MPH, PhD, FSIA
A/Professor, Curtin University; Director, WSO National Office for Australia; Western Australia

1. IS EDUCATION AND TRAINING REQUIRED FOR WORKPLACE SAFETY?

Dr. Janis Jansz, Curtin University, Australia.

2. WHAT MADE YOU DECIDE TO LIVE THERE IN INDIA?

MORE IMPORTANT WHO ALLOWED YOU TO LIVE THERE WITH NO TRAINING OR PROFESSIONAL SUPPORT? "YOUR BOOKS IN THE FARM COMMUNITY HIDE?"

3. Why do we need to provide employees with occupational safety and health education and training?

In what year was the first occupational safety and health education provided?

4. In the early days parents and tribe members provided education to their children on how to hunt, gather and later do farm work so that the children did not get sick, injured or killed.

The education and training method used was buddying up an inexperienced worker with an experienced workers.

What problems can occur with this method of occupational safety and health training?

5. THEN CAME THE INDUSTRIAL REVOLUTION

What were the benefits of the industrial revolution?

Did all employers provide employees with education on how to work safely?

Why?

6. WORKING CLASS CONDITIONS IN 1884

The working class conditions in 1884 described by Engels (1884) is depicted by this example of textile workers:

‘Men wear out at 40 years of age; almost none continue to 50’

‘...towards the 40” year the spinners can no longer prepare the quantity of yarn required.’
7.
- Women in bad posture for prolonged periods suffer from pelvic deformities.
- Young girls develop irregularities in physical development.
- Wet spinning of linen yarn by boys and girls makes their clothing wet through the skin.
- The fibrous dust of the factories cause chest infections leading to blood splitting, noisy breathing and pains in the chest.

8. UNITED KINGDOM LEGISLATION
   - 1788 Chimney Sweepers Act.
   - 1802. Health & Morals of Apprentice Act. (Sir Robert Peel) required cotton mills to be properly ventilated and cleaned (at least twice a year) as children were dying of infectious diseases. Apprentices were not to work for more than 12 hours a day. But other children's hours of work were not regulated so they could work 15+ hours a day.
   - 1833 Factory Act. Children under 9 could only work in Silk Mills.
   - 1842 Mines Act. Prohibited children under 10 and women from entering mines.
   No mention of safety education.

9. UNITED KINGDOM LEGISLATION
   - 1880 Employers' Liability Act. *Employers began employee work safety education. However accidents were considered by many employers as the result of poorly motivated people not paying attention to what they were doing. Education was a matter of telling people to Be more alert.*
   - Otto von Bismarck, in Germany, in 1884 passed the first workers' compensation law. The UK followed and in 1897 introduced the Workman's Compensation Act.

10. UNITED STATES OF AMERICA
    - 1864 Pennsylvania Mine Safety Act & the 1st Insurance Policy was issued.
    - 1867 1st Factory Inspectors (State of Massachusetts).
    - 1970 President Nixon signed into law the Occupational Safety & Health Act. *This Act required employers to provide employees with education to safely do their work.*

11. LEGISLATION IN AUSTRALIA
    - Pre 1970s. OSH legislation was prescriptive, detailed & hazard specific. Safety was seen as the responsibility of Government Inspectors. Safety performance was measured by disabling injuries. Employees were not required to have OSH education.

12. ACCIDENT CAUSATION

    - General Duty of Care by employers, employees, designers, manufacturers, suppliers, installers, etc.
    - Employers had a responsibility to provide such information, instruction, and training to, and supervision of, the employees as is necessary to enable the employee to perform their work in a manner that they are not exposed to hazards. (OSH Act WA 1981 c10(9)).
    - ILO Convention 155, OSH & the working environment. Included the Robens recommendations for the general duty of care, health & safety representatives & committees. Ratified by many countries.
    - When an ILO Convention is ratified it becomes Law.

14. 2019 SURVEY REPLY
    - "As for my call centre experiences regarding health and safety education I can say is that the safety person always hones in during the induction, tells you that his door is always open but you quickly learn when you hit the floor that if you want to learn anything about your workplace safety or health or have any complaints and you raise them with your supervisor (who is on a temporary contract) they won’t raise them as they are worried about their job and if you raise any issues or ask for work related safety education then you will find your contact not being renewed at the end of the 3 month period.
    - I guess the main point I was trying to make is that in this society we have such an enriched outsourcing environment where everyone is so worried about their job that they do not spend any time apart from one orientation lecture, on safety education, employees are afraid to bring up safety issues and these sort of companies prime focus is on making money not its employees safety education and well being."

15. 2019 SURVEY REPLY
    - "In Western Australia mining used to be one of the most unsafe industries, but this has changed dramatically and it is now one of the safest industries in the world."
    - What were the contributing factors?
ROBENS REPORT

- In the United Kingdom (UK) in the Coal Mine Regulation Act 1872, there was a provision for mine workers to be involved in inspecting the mine in which they were working to ensure that it was safe. These employees were called Check inspectors.
- Lord Robens saw how effective these Check Inspectors were in improving workplace safety and health so he included in his report employee involvement in workplace safety and health.

SAFETY & HEALTH REPRESENTATIVES EDUCATION

- The Australian Government ratified the ILO Convention 156 and for the WA mining industry safety and health representatives came into existence in 1995 with the implementation of the Mine Safety Inspection Act 1994.
- Under this law safety and health representatives are required to attend a 5 day course to learn how to identify, assess and apply risk management processes to workplace hazards, how to conduct workplace inspections and investigations, apply health & safety legislation, communicate information on safety & health matters in their workplace, how to resolve conflict & issue Provisional Improvement Notices. Safety & Health Representatives are also encouraged to attend other courses to update and improve their OSH knowledge.

MINING INSPECTORS JOB REQUIREMENTS

- A Bachelor of Science or other approved Bachelor degree in a relevant occupational health and safety discipline relevant to the resources industry.
- Qualifications or training in occupational hygiene, noise, environmental health, radiation, ventilation & safety or training in risk management or a related discipline would be advantageous.
- Demonstrated knowledge and experience of the practical application of occupational safety and health legislation and risk management principles within the resources sector.
- Experience and skills in investigations managing emerging issues, changes and projects.
- Demonstrated ability to listen, understand and adapt to communication style and manner to suit a range of audiences including the ability to negotiate effectively and convey information and structures via written and oral communication.

PROFESSIONAL DEVELOPMENT

Ongoing safety education for Inspectors
Identification of individual learning and development focussed on business needs by an agreed plan; and successful demonstration of competency through assessment process.

MANAGERS & OTHER EMPLOYEES

- Formal work related education and qualifications.
- Generic OSH education related to the industry.
- Workplace orientation talks include relevant work related safety and health matters.
- Tool Box talks, usually on a safety theme.
- Safety Shares, usually at the start of a work shift.
- Safety Stops, usually when employees need to be trained in important safety matters.

PUBLIC SAFETY

- Mainly related to road safety. Work related deaths on roads.
- Public Safety video for children on TV
  - https://www.youtube.com/watch?v=OIfxWagdHly

EMPLOYEE SAFETY EDUCATION AT THE BELL TELEPHONE COMPANY IN 1930.

https://www.youtube.com/watch?v=GA8wWONIl5g

- What was included in their workplace safety education that we still included today?
- What do we do different today for workplace safety education?
WORKSAFE WESTERN AUSTRALIA

OSH Education for children.

Planet ThinkSafe is an online educational resource that provides information to help children develop a positive attitude towards, and the skills to be, safe at school, home and in the community. It is taught in schools and has cross-curricular courses and activities that have been organised into three levels: for lower, middle and for upper primary school children.

WORKSAFE WESTERN AUSTRALIA

- The WorkSafe SmartMove website is a comprehensive OSH educational resource for senior high school students and for new young workers that are entering the workforce on a work placement, work experience, or as a school-based trainee/apprentice.
- Features of the SmartMove website include the following.
- SmartMove Certificate program, containing one general and fifteen industry modules.

WORKSAFE WESTERN AUSTRALIA

- SmartMove Safety Passport program, which contains eight progressive online lessons that include videos, online learning activities and printable worksheets.
- A resource section that contains information sessions on current occupational safety and health topics.
- Mapping documents and assessment tools for the national competency unit BSBWHS520A.
- Over seventy printable occupational safety and health lesson plans and worksheets providing 100+ hours of activities for educators.

IMPORTANCE OF WORK RELATED SAFETY EDUCATION

- Lack of knowledge resulted in a 15 year old work experience student having 75% bilateral visual incapacity due to welding without eye protection. Employer fined $1,240,000.
- A 17 year old work experience student at Thermal Electric Elements had the tips of 2 fingers crushed and amputated when his hand got caught in a brake press machine. The investigation found there was a lack of instruction, training and supervision provided to the student. Employer fined $1,250,000.

IMPORTANCE OF WORK RELATED SAFETY EDUCATION

- Work related education should be provided:
  - to new employees (including contractors).
  - to all current employees.
  - to members of the public.

Example of safety education for Australia Farmers.

https://www.google.com.au/search?q=Fact+sheets+for+safety+education+in+Australian+farm+&sourceid=ie7&ie=UTF-8&hl=en&sa=X&ved=0ahUKEw4Mti4uHjOvAhWhzC8KHk6DAhMQ8wIwBwJ

LACK OF EDUCATION

- Need to ensure understanding!

1984 Bhopal Pesticide Plant Disaster in India.

EMPLOYEES MUST BE EDUCATED ON HAZARD IDENTIFICATION – RISK ASSESSMENT – RISK CONTROL.

As simple as 1 2 3

1. IDENTIFY
   Find it

2. EVALUATE
   Assess it

3. CONTROL
   Fix it

HIERARCHY OF RISK CONTROL

ELIMINATION

SUBSTITUTION

ENGINEERING CONTROLS

ADMINISTRATIVE

PPE
38

IS EDUCATION AND TRAINING ALONE ENOUGH?

- An employee, at a Hay Baling business in Narrogin, who worked as a fork lift and press operator, had been trained to drive a fork lift safely. He had a High Risk Work Licence to operate a fork lift. Part of the training and competency assessment included not driving with the forks raised more than 30 cm. Following his training this employee had been warned on at least 2 occasions not to drive with his forks raised.
- On 22nd October the employee had loaded hay bales onto a feed table, reversed away from the table and set off in a forward direction with his forks raised at 1.7 meters high. This caused his view to be obstructed and he hit the driver, seated in another fork lift, with the fork prongs piercing the victim’s torso and killing him. The employee was fined $A11,000.

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IS EDUCATION & TRAINING ALONE ENOUGH?

- ROMA liquefied Natural Gas project construction work in Queensland. Mr Glenn Newport died at work due to heat stress.
- Significance of the heat discussed at the pre-start meeting and strategies to work safely in the heat discussed and implemented. There were workplace policies and procedures that employees had been trained to use to work safely in a hot work environment.

- Adam Perltula, a Jumbo machine officer, was working in a hot, humid underground gold mine in Western Australia when he collapsed due to heat stress and died. Report No. 222 provided the following recommended preventative actions.

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EMPLOYERS.

Recommended actions include:
- (1) not exposing employees to heat so far as is practicable;
- (2) isolating sources of heat, so far as is practicable, through shielding, containment and remote;
- (3) providing engineering controls, such as ventilation, that deliver an adequate volume, velocity and quality of air to achieve a healthy atmosphere and reduce heat loads;
- (4) adopting safe work practices and appropriate administrative procedures such as job rotation.

41

- (5) providing training to workers on measures to be taken to avoid any harmful effects from heat;
- (6) and implementing appropriate workplace environmental controls and monitoring;
- (7) if other means of controlling exposure are not practicable or adequate, providing suitable personal protective equipment.

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MANAGERS & SUPERVISORS

- Ensure workers are trained to recognise the symptoms of heat stress.
- Provide detailed safe work practices that identify the hazards and controls for working in hot and humid conditions and ensure controls are implemented.
- If the wet bulb temperature exceeds 25°C, an air velocity of not less than 0.5 metres per second must be provided for underground workplaces or in a tunnel under a surge stockpile.
- Seek urgent medical treatment for anyone suspected of suffering heat-related illness.

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WORKERS

- Understand the risks and symptoms of heat stress, and report any signs of heat stress to a supervisor.
- Ensure appropriate quantities of water are consumed to remain hydrated.

- Who has the responsibility to ensure that workers have the required education and training?

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Is work related safety education and training required?

WHY?

What are the BENEFITS?
Train Your Mind: The Key to Managing Stress

Joseph Mweu Kimeu WSO-CST/CSI(SL), SIIRSM
EHS Engineer, G4S Kuwait; Director, INPATC Kenya; Kuwait

Learn to respond, rather than react.
“By decoupling what’s happening from your reaction to what’s happening, odds are you will prevent yourself from simply being carried along by the experience and instead will prove yourself capable of getting ahead of it.”

I suggest starting with the mind. Ask yourself: what is the quality of my mind at work? What’s happening in my mind as the hours at work go by day in and day out? Is my mind working at its utmost?
Whether we work in a traditional or progressive environment, on our own or in a sea of cubicles, work life is full of challenges. Most of us are beholden to the income we receive from our jobs, and beyond that, we get up and go to work because we have a real desire to contribute to the greater good. Turning away from work is not an option for most of us, so we buck up and throw ourselves into the challenges of the workplace.

**Train your Mind—The Key to Managing Stress**

Some of us are doing well, successful and satisfied. But too many of us are not happy at work. We're stressed out and quite possibly confused. We may appear to be effective, but gnawing issues like those above can make work secretly (or not so secretly) a drag. That's not great for us and it's not great for the people we're working with.

*Our minds are inherently wired to survive, NOT to succeed!!!!!!!*

**Train your Mind—The Key to Managing Stress**

**Meditation**

- Meditation and mindful prayer help the mind and body to relax and focus. Mindfulness can help people see new perspectives, develop self-compassion and forgiveness. When practicing a form of mindfulness, people can release emotions that may have been causing the body physical stress. Much like exercise, research has shown that even meditating briefly can reap immediate benefits.

**Train your Mind—The Key to Managing Stress**

**Exercise**

The research keeps growing — exercise benefits your mind just as well as your body. There are long-term benefits of a regular exercise routine but a 20-minute walk, run, swim or dance session in the midst of a stressful time/moment can give an immediate effect that can last for several hours/short term.

**Train your Mind—The Key to Managing Stress**

**Social support**

When you share your concerns or feelings with another person, it does help relieve stress. But it's important that the person whom you talk to is someone whom you trust and whom you feel can understand and validate you. If your family is the stressor, for example, it may not alleviate your stress if you share your woes with one of them.

**Train your Mind—The Key to Managing Stress**

**Take a break from the stressor**

It may seem difficult to get away from the stressor, but when you give yourself permission to step away from it, you let yourself have time to do something else, which can help you have a new perspective or practice techniques to feel less overwhelmed.

NB: just 20-minutes to take care of yourself is MUCH helpful.

**Train your Mind—The Key to Managing Stress**

**Smile and laugh**

Our brains are interconnected with our emotions and facial expressions. When people are stressed, they often hold a lot of the stress in their faces, as such, laughs or smiles can help relieve some of that tension and improve the situation.

**Train your Mind—The Key to Managing Stress**

**Summary**

- Meditate
- Exercise
- Social support
- Take a break from the stressor
- Smile and laugh
Working to Free Children from Sexual Exploitation and Combatting Human Trafficking

Hilary E. Konczal WSO-CSSD/CSM/CST
Chief Safety and Environmental Officer, Metra; Illinois USA
Recruitment

- The sexual exploitation of children is not limited to particular racial, ethnic or socioeconomic group.
- Children are often targeted by people they already know, like an ex-boyfriend or even a teacher: “Traffickers recruit at schools, at malls. Anywhere where children and youth gather.”
- Children are easier to manipulate than adults. More money can be earned by younger girls and boys exploited in sexual exploitation, especially virgins.
- Pre-pubescent girls are reported to be injected with hormones to bring on puberty.
- Younger girls are expected to have a greater earning potential and as such, are in greater demand.
- Sex Traffickers keep their victims under lock and key or in isolation from the public and their family members or support networks, confiscate their passports or identification documents, use the threat of violence or death against the enslaved person or their families, threaten them with shame, fear of imprisonment and control their money.

Who is ReClaim13?

- Works with children who are vulnerable to abuse and exploitation through their prevention programs in schools. They bring awareness to the issues of sex trafficking so children who may be vulnerable know where to seek help.
- A Home for Trafficked Girls - Cherish House is a home for girls between the ages of 10-17 recovered from sex trafficking. It is the only specialized care facility in the state of Illinois for children.
- At Cherish House children can heal, pay, complete their education, and reclaim the path of freedom and hope.
- Reclaim13 focuses on community awareness and engagement. They are committed to the mission to end the cycle of sexual exploitation through partnerships with law enforcement agencies, transportation agencies (Metra) and the business community.

Metra’s Partnership with ReClaim13

- Do any of these statements sound familiar?
  - Yes, these are signs of exploitation and human trafficking.
  - Exploitation is wrong!
- Do any of these statements sound familiar?
  - Yes, these are signs of exploitation and human trafficking.
  - Exploitation is wrong!
- Do any of these statements sound familiar?
  - No, they do not.

Metra's Awareness Training

- Metra Police officers have been taught how to recognize human/sex trafficking encountered during their routine duties, how to protect victims, and how to initiate human/sex trafficking investigations.
- Our conductors, engineers, ticket agents and customer service reps. will receive training on how to identify physical and mental signs associated with human/sex trafficking and how to report it.
- The training will cover:
  - The definition of human trafficking, including human and sex trafficking.
  - Myths and misconceptions about human trafficking.
  - Physical and mental signs to be aware of that may indicate that human/sex trafficking is occurring.
  - How to identify individuals most at risk for human/sex trafficking.
  - How to report human/sex trafficking and
  - Protocols for reporting human/sex trafficking when on the job.

Thank You

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How to Deal with Work Fatality

Martin Logan CRHP
National Director Health & Safety, AGF Group (AGF Steel); Québec, Canada

AGENDA
- AGF GROUP at a glance
- Experience with the Construction association
- Introduction with a few numbers from OSHA
- When it does happen...

STATS FROM OSHA
- 5,147 deaths*
  - Average
  - > 99 a week
  - > 14 deaths every day

*Source: U.S. Bureau of Labor Statistics

ABOUT AGF GROUP INC.
Reinforcing steel, post-tensioning, scaffolding & access

+40 BUSINESS UNITS
22 FABRICATION FACILITIES
12 COUNTRIES
2387 EMPLOYEES

STATS FROM OSHA
HOW?
- Falls
- Struck by object
- Electrocution
- Caught-in/between

*Source: U.S. Bureau of Labor Statistics

AGF'S GLOBAL PRESENCE

STATS FROM OSHA
Down on average
- 1970: 38 worker deaths / day
- 2017: 14 / day

*Source: U.S. Bureau of Labor Statistics

TOP 10 MOST FREQUENTLY CITED STANDARDS
- Fall protection, construction (29 CFR 1926.501)
- Hazard communication standard, general industry (29 CFR 1910.1200)
- Scaffolding, general requirements, construction (29 CFR 1926.451)
- Respiratory protection, general industry (29 CFR 1910.134)
- Control of hazardous energy (lockout/tagout), general industry (29 CFR 1910.147)
- Ladders, construction (29 CFR 1926.1053)
- Powered industrial trucks, general industry (29 CFR 1910.178)
- Fall Protection—Training Requirements (29 CFR 1926.503)
- Machinery and Machine Guarding, general requirements (29 CFR 1910.212)
- Eye and Face Protection (29 CFR 1926.102)

Source: Federal OSHA in fiscal year 2018 (October 1, 2017, through September 30, 2018)
THE INCIDENT, THE ACCIDENT, THE EVENT

THE FIRST MINUTES
- Workers ring the bell, report the accident
- Someone call 911
- Emergency comes and then...
- Let me tell you this!

IMPACT...
- Co-workers
- Site
- The company
- Family

YOUR PROCESS
- THE COMPANY
  - Emergency plan
  - Investigation process
  - OSHA-Policies
  - Family & communication
  - Identification
  - Corrective action
  - Training
  - Council-internal worker
  - Return to work
- EXTERNAL CUSTOMER
  - Communication
  - Return to work
- AUTHORITY
  - OSHA, WCB
  - Legislation
  - Government
  - Safety program
  - Investigation
  - Record
  - Documentation
  - Demonstration of
    - Compliance
    - Cooperation
- MEDIA
  - Control message
  - Facts
  - No names
  - Date, time
  - What happen
  - Response from facts
  - No judgements
  - No pretentions
  - Process & cooperation

STANDARD FROM YOUR SAFETY PROGRAM

STANDARD & PROCESS
- Emergency response plan
- Incident reporting process
- Investigation process
- Speaking with the media
- Safety for travelers

FORMS & FOLLOW UP
- Firstaiders & kits, in case of emergency numbers
- Incident report
- Investigation form
- Emergencies for all situation

IMPLEMENTATION AND FOLLOW UP
- Training
- Communication
- E-mail
- Safety orientation
- Awareness

YOUR SAFETY PROGRAM
- To have a process in place
- To prevent accident
- To deal with accidents if they happen, in cooperation with all levels
  - It's a book, it's a process, it's a way of working
  - On the shelf or ... It's a way of life!

QUESTIONS, COMMENTS?
Thank you very much!

Martin Logan CRHP,
National / international Health & Safety Director

AGF Group
Current Practice, Attitude, and Behavior toward Road Safety Behavior among Drivers in Jakarta, Indonesia

Cynthia Febrina Maharani
Lecturer, Binawan University; Jakarta, Indonesia

Aims or Objectives
- To investigate the current practices, attitude, and perception towards road safety behaviour of the drivers in Jakarta, Indonesia.

Introduction
- PhD Candidate University of Iowa
- University of Birmingham 2016
- Universitas Indonesia 2014

Latest Researches:
- Safety culture in Indonesian construction industries
- Analysis of Complexities in Natech Disaster Risk Reduction and Management: A Case Study of Cilegon, Indonesia

Introduction-Theories of Accident Causation
- Domino Theory that was introduced by Heinrich in 1939 (Torghabeh et al., 2012)
- Multiple Causation Theory by Bird and Loftus in 1986 (Abdulhamid and Everett, 2000)
- Some previous studies found that the road accident caused by multi factors (Bekibe et al., 2007).

Background
- Between January and July 2008: traffic accidents in Jakarta caused 1,499 people badly injured (Soehodho, 2009)
- Most people who are killed in road crashes in Indonesia are drivers (Soehodho, 2009).
- The road safety issue is a recognised important global health priority (Nantula & Sleet, 2003)
- Most of the victims of road accidents in Indonesia are motorbike users (Soehodho, 2009)

Introduction-Defining Perception, Practice and Attitude
- The term ‘perception’ can be defined as the subjective opinions, judgements, and feelings (Taylor et al., 2004)
- In term of practice, unsafe acts can lead to fatalities (Sjoberg, 2000)
- The term ‘attitude’ means an individual desire to behave properly or poorly in relation to safety (Areze and Miguel, 2008)
Introduction-Safety Triad Theory

- In Safety Triad Theory, the workers’ attitude in doing their job can be determined by looking at their skills, abilities, intelligence, and personality (Jebb, 2015).
- The behaviour element refers to recognising, communicating, and demonstrating (Jebb, 2015).

Method

- The study utilises both quantitative and qualitative research.
- Semi structured interview: the nine participants were carefully chosen from three different criteria.
- Questionnaire was also given to people who work in South Jakarta area: to strengthen the interview results.

Results

- Questionnaire Finding

![Dangerousness of Cars](image)

- Questionnaire Finding

![Dangerousness of Motorbikes](image)

- Questionnaire Finding

![Dangerousness of Buses](image)

Questionnaire Finding

- Based on the three graphics above, people think that the most dangerous transportation mode is motorbike with the percentage 37.85% while 23.4% people think that car is very dangerous and 32.03% people think that bus is very dangerous.

Interview Findings

**What is the drivers’ perception towards safety behaviour on the road?**

- “...know the rules and procedures of driving, understand the safety signs on the roads.” (Respondent 5: Car driver)
- “...aware of the vehicle condition and also pay attention to all safety signs on the road.” (Respondent 2: Motorbike driver)
- “...focus and concentrate while driving especially not easily disturbed by mobile phone.” (Respondent 6: Car driver)

**What is the drivers’ perception towards safety behaviour on the road?**

Subsequently, the findings suggest that the experiences (internal determinant) also influence the drivers to increase their awareness towards road safety behaviour.

“In 2013, I was blamed in a road accident. There was a truck hit a motorcycle then the motorcycle hit my bus while I was driving and the biker felt under my bus.” (respondent 9: Bus driver).

**What is the drivers’ perception towards safety behaviour on the road?**

- The other drivers shared their opinions in respect to the drivers who use the mobile phone while driving.
  - “If it is urgent to use the phone, then the person can use it while there is a traffic or when the red light is on.” (Respondent 5: Car driver)
  - “It’s really dangerous and could harm another road users.” (Respondent 3: Motorbike driver)
What are the attitudes of the drivers towards safety behaviour on the road?

- It is found that there was a gap between the drivers’ perceptions towards another drivers who use mobile phones while driving and their own attitudes.

  - "... within the traffic, I usually open my mobile phone just to check it." (Respondent 3: Motorbike driver).

  - "Well, I am one of those drivers who often use mobile phone while driving." (Respondent 2: Motorbike driver).

  - "... women can do some tasks in the same time, including chatting while driving." (Respondent 5: Car driver).

Discussion

What is the drivers’ perception towards safety behaviour on the road?

The finding is consistent with Safety Triad Theory that introduced by Gellar (2011) and an explanation that demonstrated by Brookhuis et al., (2012)

What are the attitudes of the drivers towards safety behaviour on the road?

- The car drivers were asked about the use of seatbelt. The researcher found that the participant always use their seatbelt while driving.

  - "... well, yeah seatbelt make me feel more safe and focus." (Respondent 1: Car driver).

  - "By using the seatbelt will reduce the risk of hitting the dashboard if accident happen." (Respondent 5: Car driver).

What are the attitudes of the drivers towards safety behaviour on the road?

- The researcher also also about using helmet to the motorbike drivers and found that their awareness about good safety practice of using a safety helmet was poor.

  - "I use half-face helmet because it is more affordable and easier to use." (Respondent 3: Motorbike driver)

  - ".... half face helmet of course because it’s not heavy and more comfortable to be used rather than the full face one." (Respondent 2: Motorbike driver)

What are the attitudes of the drivers towards safety behaviour on the road?

In addition to the findings, the researcher asked the bus drivers about their habit in driving the buses on the roads.

  - "... you know almost every bus driver always drive their buses exceeded the speed limit and ignore some forbidden lines..." (Respondent 7: Bus driver).

  - "I always ignore the busway line which is forbidden for buses to pick up my passengers." (Respondent 8: Bus driver)

Discussion

What are the attitudes of the drivers towards safety behaviour on the road?

There was a gap between the perception of the drivers towards road safety behaviour and the real practice.

Conclusion

- The internal and external determinants affected how the drivers think, judge, and act towards road safety behaviour
- The drivers already recognized what factors that affected them to not perform safely while driving
- The poor knowledge and attitude can be corrected by adapting safe driving culture and developing a better facility
- A safety driving intervention might be needed to educate the drivers towards road safety behaviour

Limitations

- Study participants
- Triangulations
Selecting and Managing Your Security Consultants

Graham Moore JCL, CPP, PSP
President, Tesseract Security Consulting, Inc.; British Columbia, Canada

1

Selecting and Managing Your Security Consultants

WSO 2019 Symposium Presentation
Presented by: Carl I. Prophet, WSO-CSGO
Graham Moore, JCL, CPP, PSP
Planning & Tender Preparation Processes
(Also Known as “Your Homework”)

There are several project planning steps that business, operations or facility management should go through prior to tendering bids for security consulting services. It’s a clear case of knowing and defining what you need before creating the RFO and similar tender documents. It’s equally important to be actively involved with and supporting the security consulting project, and your consultants.

2

Step 1:
What are your areas of security concern and why are you concerned?
Do you have corporate support for evaluating and mitigating these concerns?

- This requires input from the departments and leadership groups
- Loss events
- Security breaches can cover a wide variety of issues
- Corporate support is easy to obtain as an IP service
- Selling the benefits of security reviews, TRAs and security design

3

Step 2:
What do you want the outside experts to review?

- This information has to be taken directly from your own reviews and the commentary from the various levels of stakeholders
- Security and life safety are tightly intertwined these days
- What particular aspects of “security” are you going to have reviewed?
  - IT and IRIS
  - Physical Security
  - Technical Security
  - Protecting Patents, Trade Secrets, Proprietary Technology & Processes
  - Privacy impact Assessments, Confidentiality Requirements

4

An excellent tool to guide everyone developing the project is a Project Charter

This document should never be more than 2 pages long

The Dirty Dozen of Project Charter components are:

- Project Name
- Project File Number
- Project Charter Date
- Revision Number
- Project Goals
- Deliverables
- Scope Definition
- Project Milestones
- Assumptions, Constraints & Dependencies
- Related Documents
- Project Organizational Structure
- Project Authorization

5

Step 3:
Do you have a specific $5 budget for the security consulting project?
Is there $5 budgeted for likely security upgrades?

- This is a tough area to navigate
- The first recommendation – figure out what your probable sponsor’s hot buttons are
- Don’t be afraid to ask for ballpark guesses as to the cost for a consulting project

6

Step 4:
Is there a timeline for the security consulting project? The potential vendors will need to know these limits as part of their factors in quoting on the project

- Time is money for any consultant
- There are instances when the project can’t be done in the allotted or available time
- Some projects must be broken down and quoted in phases so the most critical parts are covered first

44
**Step 5:**
Who will create the RFP and who will review the document for scope, timeline, required qualifications and required relevant vendor experience?
- Why a Request for Quotation instead of a Request for Proposals?
- If you don’t have expertise in writing a security-based RFP, find someone that has
- The scope must be imbedded in virtual concrete
- You must have a desired outcome expressed in your RFP
- Vendor qualifications and experience as they relate to your specific needs are vitally important

**Step 6:**
Research before you tender the RFP to appropriate organizations or vendors
- Other businesses similar to yours may be able to steer you toward or away from specific companies or individuals
- Search out security consultancies that specialize in the areas outlined by your RFP
- If you can’t properly cover all of the areas of research with a single vendor, consider dividing the project into a couple of areas of expertise

**Project Startup**
**Step 1:**
Provide a workplace safety orientation to the entire security consulting team
- Create the security consulting team to your organization and facilities
- If Personal Protective Equipment is required, make certain the consultants all understand the requirement
- If specialized safety training is required at any juncture of the project, stop work and have all relevant consulting team members complete the training or be certified as necessary
**Step 2:**
Alert staff (or not, as appropriate) that a security project is underway, and that specific identified individuals will be in their work areas
- Provide escorts as necessary
- Secured office or technical workspace may also be provided if appropriate

**Project Midpoint/Incremental Reviews**
**Step 1:**
Plan ahead for scheduled reviews of the project’s progress
- Periodic reviews are important especially when the corporate management isn’t extremely familiar with security operations and risk evaluations
- Progress reports can help you determine when to jump in and help move things along
- As the saying goes, “The object is to drain the swamp”

**Project Completion Report Reviews**
**Step 1:**
Promptly review the submitted draft reports against the project deliverables
- Don’t shout the message to throw them under the bus
- Sometimes the news is really bad
- A carefully researched and crafted report will ultimately be a useful tool for moving your security processes forward
**Step 2:**
Meet with the consultants and provide detailed information regarding changes that are required for the final reports
- The reports are intended to provide an accurate assessment of your particular areas of concern
- If the consultants requirement for documenting their due diligence is an issue, you might ask to have the items in a separate document not attached to the main report

**Project Close Processes & Procedures**
**Step 1:**
When the final reports are submitted to your satisfaction, recover identification, access cards, keys etc. and request an invoice
- Return of company property is frequently a weak point in busy organizations, whether from employees or outsiders
- Formally close the project, get the invoice and prepare for the next steps
**Step 2:**
Pay the security consultant’s invoice promptly!
Remember:
- Security is a dynamic process that changes on a frequent basis
- Hiring and managing security consultants is an integral part of the security continuum
Does Modern Ammunition Really Present a Hazard to First Responders in Accidents and Fire?

David A. North WSO-CHMT(I)/CSI(ML)
Director of Emergency Response Personnel and Fire Chief, Town of Mills; Owner, DNS Environmental; Wyoming, USA

1

Hazards of Modern Ammunition

by

DAVE NORTH
WSO CSI(M), CHMT II, BOARD OF DIRECTORS

2

Modern ammunition is made with smokeless powder -vs- Black Powder

HOLLYWOOD -VS REALITY

3

Goes with the territory. Let me see, propane, paint, varnish, hairspray, gas cans, tires, batteries, refrigerator compressors, solvent, paint stripper, bear saps, dive tanks, booby traps (gotta love those!) meth labs, rocket motors, fireworks, etc, etc.

I am not that concerned with loose ammunition cooking off. Even if it hits you, it just stings a little.
Grooming the Future Workforce:
A Case Study of the Train Them Young Initiative (#2TYI)

Ugochi Obidiegwu
Managing Partner, Ulomka Multi Solutions Ltd.; Lagos, Nigeria

1. **Train Them Young Initiative**


3. **Grooming the Future Workforce:**

4. In his book “Gunshot Wounds” Vincent D. Malo describes various experiments where ammunition was heated in ovens. He says that .22 long rifle cartridges detonate at an average of 275°F, .38 Special at 290°F and 12 gauge shotgun shells at 387°F.

5. The interesting thing about these furnace experiments was that in all instances the cartridge cases ruptured, but the primers did not detonate.

6. In fact the primers were removed from some of the ruptured cases, replaced with other brass and fired.

7. **Conclusion:**

Modern ammunitions presents only a small hazard to first responders. With proper gear and precautions the hazard can be easily mitigated.
Pilot Project: Findings

At the time of this report, the schools had not completed the use of the books but an interim focus group discussion with children and teachers highlighted the following:

- Majority of the children had no prior safety education. The ones who had, had limited knowledge restricted to certain areas.
- The book introduced new learning on different areas they had not considered e.g., abduction, molestation.
- They were sharing what they learned with other children outside school.
- The teachers also learned from the content.

Pilot Project: Recommendation from teachers

The teachers love the book because it is easy to use and effective to pass on knowledge but want more areas included in the safety curriculum like:

- Children with special needs
- How to withstand peer pressure
- How to prevent drug abuse

We need YOU
The Ripple Effect: The Impact Unsafe Work Acts Have on a Family

Kayla Rath
Motivational Safety Speaker, Safety Difference; Texas, USA
Safety Climate Perception of Workers

Lourrinda Renée EdD, PhD, CEM, AWS-CWI, CSHO, WSO-CSS/CSSD
Owner, Lourrinda Enterprises LLC; Oklahoma, USA

1 Safety Climate Perceptions of Workers

*SAFETY CLIMATE...WHAT IS IT?
*WHY SAFETY CLIMATE IS IMPORTANT...

2 Organizational Culture.
A dynamic phenomenon that surrounds us at all times, being constantly enacted and created by our interactions with others and shaped by leadership behavior, and a set of structures, routines, rules, and norms that guide and restrain behavior (Blazsín & Guldenmund, 2015; Henrikson et al., 2014; Schein, 2010).

Culture is measured with qualitative tools, interviews, observances (Hecker, 2013).

3 Psychological safety climate (PSC).
The conceptualization of safety climate at the individual level and refers to the individual’s perceptions of safety stimuli, including policies, procedures, and practices in the environment. Psychological safety climate serves as a frame of reference for guiding and directing appropriate and adaptive safety behavior in carrying out task activities (Griffin & Neal, 2000; Morrow et al., 2010).
Safety climate.

Shared perceptions are a superficial snapshot, management’s commitment, trust, safety vs. production, accountability, safety compliance, and safety participation (Fruhen et al., 2014; National Institute of Environmental Health Sciences [NIEHS], 2013).

Safety Climate

Since 1980, the theoretical framework of safety climate has created both generic and industry specific questionnaires to measure leading indicators of safety climate by measuring worker’s safety perceptions (Galdenmund, 2000).

Safety Climate Research has changed how accident research occurs, from once the goal was determining what went wrong, to now identifying a method of predicting future incidents. By determining the current safety climate using quantitative measurements related to poor safety climate, where more accidents happen, or good where fewer accidents occur. During this period, research has expanded the concept of measuring safety perception at the employee level (Sheehan, Donohoe, Shea, Cooper, & Cleri, 2016; Zohar, 1980).

Need for safety climate research is because each industry has special concerns and issues, likely to heighten injuries, illnesses and workplace deaths.

Agriculture, construction, and oil-and-gas deaths lead all US industry work related deaths, increasing six-fold over the past ten years, with many deaths not reported (Arana et al., 2010; Battaglia, Bianchi, Frey, & Passeti, 2015; Lebeau, Duguay, & Boucher, 2014; Shea et al., 2016; U. S. Bureau of Labor Statistics, 2015).
1. Management safety priority, commitment, and competence.

Dimension 1 is the extent to which employees view the actions of management as demonstrating safety priority, safety commitment, and safety competence (Fruhen et al., 2014; Kines et al., 2011).


Defined as the extent to which management conveys trust in employees by delegating decision-making authority in some aspects of safety to the employee (Kines et al., 2011).


Dimension 3 is the level of consistency and fairness between safety procedures, actions, and consequences related to incidences, or near-miss incidents (Kines et al., 2011).

4. Workers’ safety commitment.

Related to worker safety priority and defined as the extent to which workers are committed to creating and working in a safe environment (Kines et al., 2011).

5. Workers’ safety priority and risk non-acceptance.

Dimension 5 defined as the priority that a worker puts on safety and the level of risk that they are not willing to accept (Kines et al., 2011).

6. Safety communication, learning, and trust in co-worker safety competence.

Defined as the two-way communication, between managers or organizational representatives and employees regarding safety (Kines et al., 2011).

7. Trust in the efficacy of safety systems.

Defined as the extent to which the systems of safety including items such as safety teams, safety inspections, and walkthroughs, and safety training are deemed effective (Kines et al., 2011).

The research findings determined there was no significant differences in the extent of safety perceptions between direct employees (first workers, supervisors, and managers), nor between direct and indirect workers on safety climate perceptions as measured by the NOSACQ-50 instrument.

Concluding there was not a statistically significant difference in the safety climate perceptions between workers, supervisors and managers, not even when applying demographic covariates.
The NOSACQ-50 instrument does not currently collect demographics.

In my research, demographics were collected identifying the respondent's age, gender, marital status, family size, education, company of employment, primary language, country of origin, years of tenure at their company, years of experience within the agricultural industry, whether one how they spend the majority of their working day and type of employee (full-time, part-time, seasonal), director and/or employee tends away from home or at corporate offices, and worker, supervisor or manager position.

All items of which have been identified as gaps in current research literature.

Demographic variables were collected with the instrument to determine if they have any differential safety perceptions.

Demographic factors have the possibility of influencing safety climate in some environments, for example, gender, marital status, educational level, work experience in a particular industry can effect one’s safety (Henderson & Coates, 2012).

These research findings indicate that workers with a family to support show more positive toward safety, more than young single co-workers, who are older employees.

Direct hired employees view more positive safety climate perception than subcontractors.

Workers with less than 10 years of education had a lower safety perception (Boudot et al., 2009).

Younger workers were a higher risk for workplace injuries (Coburn, 2003), compared to those controlling variables of worker participation and company size (Kreisel et al., 2011).

The use of the NOSACQ-50 instrument has now reached over 50,800 employees worldwide and has been benchmarked into a resource library for other researchers to compare their findings to many worldwide industrial sectors (P. Kees, personal communication, September 19, 2017).
If you have any questions please contact:
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405-517-2066

Research began reviewing safety perceptions as a multi-level measurement by comparing group-level responses to other company hierarchy levels, for example managers, supervisors, to the safety perceptions of workers (Zohar, 2002, 2010).

Theories of safety climate have been founded upon, theory of planned behavior (TPB) an extension of theory of reasoned action (Ajzen & Fishbein, 1980; Fugas, Silva, & Melia, 2012), which emerged as one of the most influential concepts for the purpose of examining a person's own attributes, behavior, and intentions (Ajzen, 1985, 1991, 2012, 2014).

Perceived behavioral control theory, produces favorable or unfavorable attitudes by performing norms from perceived social pressure (social norms) and control beliefs. These norms, based upon the perceived ease or difficulty in performing this noted behavior (Ajzen, 2002; Henriquez, Schuler, van Winsen, & Dekker, 2014).

Theorists agree most of human behavior is goal-directed, a function of both person, environment (Lewin, 1951; Schein, 1985), and were planned (Ajzen, 2002).

Psychological climate identifies with the employee's workplace by taking measurements of trust, cohesion, pressure, innovation, and fairness (Kaye & DeCotiis, 1981; Gitman, Balitz, Sauer, & Herren, 2002). Psychological health and safety climate, psychological safety climate (PSC), is an antecedent to Edwards's psychological safety construct (Dawson & Bakkas, 2010; Herbsleb, Hysel, & Es, 2016).

The psychological safety climate is a safety behavior defined by the worker's safety perceptions, according to their organization's practices, and procedures (Egan & Cheyne, 2000; Herbsleb, et al., 2010; Kuyk & O'Neill, 2014). 'Through this evolution of theories defining safety climate, the current empirical research definition is the 'psychological safety climate' (Dawson & Bakkas, 2010; Herbsleb, Hysel, & Es, 2016).

Research shows organizations still need to identify, compare, and share the safety climate perceptions of its workers, including direct-line workers and their direct supervisors (Colley & Neal, 2012; Dollard & Baker, 2010; Huang et al., 2014; Grzywacz et al., 2008). These documented perceptions can provide a framework of reference and guidance for incorporating or adapting appropriate workplace behaviors, enabling organizations to understand and improve safety behaviors (Hofmann, Jacob, & Landy, 1995; Huang, Lee, Mccadden, Thorne, & Robertson, 2017b). These reports may provide employers with identified safety dimensions of how workers interpret, evaluate, or judge actions (Kline et al., 2010; Huang et al., 2014).

Organizations use safety climate measurements successfully as a leading indicator in determining a workplace's organizational culture. Research establishes a positive link between safety climate and significantly lower incident rates, and better overall performance (Marx, 2015; Barry, 2014; Meeks, Meeks, Pinn, & Kravin, 2014; Meeks, Meeks, Pinn, & Kravin, 2014; Meeks, Meeks, Pinn, & Kravin, 2014; Meeks, Meeks, Pinn, & Kravin, 2014; Meeks, Meeks, Pinn, & Kravin, 2014; Meeks, Meeks, Pinn, & Kravin, 2014).

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It is the individuals who work on agricultural sites, who lead in the highest injury and fatality rates nationwide (Cates et al., 2015; Cipriani et al., 2015; Msika et al., 2015). Nationally and internationally, organizations and researchers are realizing an increased number of occupational safety and health injuries and illnesses as a serious problem, one far from being solved (Robertson et al., 2012). Safety climate, a leading indicator of workers' safety perceptions and attitudes toward safety management systems. Where some studies have focused on incident lagging indicators, or post-incident investigations to identify what the safety culture problem existed at the time of a critical incident, others are focusing on leading indicators for answers to the problem (Barnabé et al., 2016). Lagging indicators of safety culture have been shown to be effective in identifying organizational culture issues (Shea et al., 2016; Snekijlov et al., 2015).

Practical contributions will consist of gathering different levels of employed safety perceptions of oil and gas incident workers and in the oil and gas industry companies in recognizing any differences within each of the seven safety dimensions as defined by the NOSACQ-50 tool, increasing safety processes where scores are weak and continuing to strengthen areas where scores are high. Safety climate is a work in progress. This data may aid in identifying current differences among management levels or this group of oil and gas incident workers. An increasing number of researchers are investigating the relationship between the incident and the organization (Quantitative Research Methodology). This contribution aims to bridge the gap within the organization through implementation of these gaps, can make the organization stronger, lowering incident rates, while increasing morale (Barnabé et al., 2015; Coles et al., 2015; Derwallen & Arndt, 2012; Gao et al., 2015).

Safety climate (Quantitative) or Safety Culture (Qualitative)? Research Methodology.

Researchers have identified quantitative measurement is how to properly identify current safety climate scores, whereas, qualitative measurements are typically used to measure organizational culture, but when measuring safety climate (Goldmünz, 2000; Nelis, 2004; Yehia, 2004; Aboush & Aboush, 2015). Using quantitative methods, specifically questionnaires are an adequate, reliable, and valid method in determining current workplace safety climate (Koivu et al., 2012; Petersen & Koo, 2011; Zohar, 2016). With minimal efforts, a survey can be collected from a group of workers, after analyzing the collected data, the organization can be used for evaluation. Questionnaires are often used to measure safety climate (Antonsson et al., 2012; Barnabé et al., 2015; O'Connor et al., 2014). Other safety climate instruments are proving useful, for example, the more recent Organizational Performance Metric Monitor (OPM-Monitor) is a reliable and validated tool but it does not have extensive research or multiple industry application as found in the NOSACQ-50 tool (Shea et al., 2016). Safety climate assessment scoring (Hébert et al., 2016), safety climate scale (Antonsson et al., 2012), safety climate (Clarke, 2004) to name a few. If the data is not shared, more questionnaires or data collection is needed (Shea et al., 2016).

Many of the questionnaires or scales are structured for a single organization or total safety climate score (Koivu et al., 2012). Several of these research instruments, however, do not include specific questions. It is important to measure all industries or tasks, not just those that are present in any single field or discipline. This is especially important for those who are working in industries that are not typically researched, such as agriculture. The data collected in this study is based on a survey of safety climate (Koivu et al., 2012). A library or dataset is a necessary tool to expand current safety climate theory (Shea et al., 2016; Snekijlov et al., 2015).
Safety through the Generations
Karen Townsend
Senior Manager HSE, Sodexo; California, USA

1. Introduction
2. Safety Moment
3. Safety at Work & Home
4. Stretch & Flex
5. Questions & Answers

Distracted Driving—National Safety Council 2019

Every day, at least nine Americans die and 100 are injured in distracted driving crashes. (National Safety Council)

April has been designated as the cell distracted driving awareness month. In the National Safety Council, it’s a united effort to recognize the dangers of and eliminate preventable deaths from distracted driving. Here are some intergenerational comments from the National Safety Council:

https://www.nsc.org/campaigns/cell-distracted-driving

National Safety Council focuses on preventing distracted driving.
They have a program called “Alive at 25.” The interactive program helps young drivers understand the dangers of distracted driving.

One of the course objectives is to “Recognize the positive characteristics that can help them and their friends make wise driving decisions.” (National Safety Council)

Safety at Work & Home
A. Low Back Pain
B. Musculoskeletal Disorders
C. Ergonomics & Prevention of Strains
D. Siting and Manipulating Workstations
Safety Through the Generations

Low back pain is a very common health problem worldwide and a major cause of disability - affecting performance at work and general well-being. Low back pain can be acute, sub-acute, or chronic.

World Health Organization (2012)

Safety Through the Generations

Low back pain is the leading cause of activity limitation and work absence throughout much of the world, imposing a high economic burden on individuals, families, communities, industry, and governments.

— World Health Organization (2012)

Safety Through the Generations

In the United States, an estimated 14 million work days a year are lost from work due to low back pain, with total costs estimated to be US $100 to $200 billion a year, of which two-thirds is due to lost wages and lower productivity. (Centers for Disease Control, 2013)

Safety Through the Generations

What is a musculoskeletal disorder?

Musculoskeletal disorders (MSDs) are conditions that affect your body's muscles, joints, tendons, ligaments, and nerves. MSDs can develop over time or can occur immediately due to overloading. (Oregon OSHA, 2001)

Safety Through the Generations

The U.S. Department of Labor defines a musculoskeletal disorder (MSD) as an injury or disorder of the muscle, nerves, tendons, joints, cartilage, or spinal discs. MSDs do not include disorders caused by slips, trips, falls, motor vehicle accidents, or similar accidents. (Department of Labor, 1999)

Safety Through the Generations

Early action is important when addressing MSDs because they can be treatable and less expensive in the early stages but irreversible and very expensive later. Medical costs and workers' compensation claims for one serious back injury can cost very costly.

Estimates indicate that the indirect costs associated with MSDs may be four to 10 times higher than the direct costs. (Dunsiger, 2001)

Safety Through the Generations

Top Ten Occupations for MSDs
- Nurses aides, orderlies, and attendants
- Truck drivers
- Laborers not involved in construction work
- Assemblers
- Janitors and cleaners
- Registered nurses
- Stock handlers and baggers
- Construction laborers
- Cashiers
- Receptionists


Safety Through the Generations

Cal/OSHA data: Manual material handling (MMH) work contributes to a large percentage of the over 1 million cases of musculoskeletal disorders reported annually in the United States. Musculoskeletal disorders often involve strains and sprains to the lower back, shoulders, and upper limbs. (Dept. of Indusrelrelations, Cal/OSHA Consultation & Research, 2007)

Safety Through the Generations

Eliminate Individual heavy lifting of greater than 40 lbs. Break down the load into smaller parts. Utilize carts and dollies.

Train employees in the proper lifting technique. Raise and/or lower shelves to the appropriate height. Utilize a lift team. (Dept. of Industrial Relations, Cal/OSHA 2007)

Safety Through the Generations

“Violents have twice as much rise of developing pain in the neck, right shoulder, and left forearm, when compared with pianists. Violents and violinists have a higher incidence of pain in the neck, shoulder, elbow, and forearm than pianists.” (Lubliner, Al, and Singer, G. (1953)

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19. Safety Through the Generations

MODIFICATIONS OF INCORRECT TECHNIQUE CHANGES IN PLAYING HABITS PERIODS OF REST TRAINING OF CORRECT POSTURES FREQUENT STRETCHING EXERCISES AND USE OF CHAIR AND SHOULDER RESTS ARE HELPFUL IN THE TREATMENT OF VARIOUS ABNORMALITIES. (McGraw-Hill, 1981)

20. Safety Through the Generations

What are the advantages of ergonomics?

1. Increased savings
2. Fewer employees experiencing pain
3. Increased productivity
4. Increase morale
5. Reduced absenteeism

(Ergon OSHA, 2001)

21. Safety Through the Generations

- LISTEN TO EMPLOYEES
- BE POSITIVE AND PROACTIVE
- PROVIDE QUALITY ERGONOMIC SAFETY TRAINING
- OBSERVE EMPLOYEES (ERG) IN ACTION
- CORRECT UNSAFE ACTS (ERG) IMPROVEMENTS
- RECOGNIZE SAFE BEHAVIORS
- LEAD BY EXAMPLE (Himelfarb, 2003; OSHA, 2003)

22. Safety Through the Generations

- Match job tasks to the worker (Dept. of Industrial Relations Cal/OSHA, 2003)
- Encourage feedback from the employee
- Observe the employee
- Get to know your staff and build a good rapport (U.S. Dept. of Labor, 2001)
- Provide breaks
- Provide the right tools for the job task
- Make employees feel valued and show appreciation for their work (Cal/OSHA, 2000)

23. Safety Through the Generations

Stretch & Flex Program

A. Hydration
B. Stretch & Flex
C. Rotate Job Tasks

24. Safety Through the Generations

[YouTube Video]

25. Safety Through the Generations

Questions & Answers
Safety in American Schools: A Student’s Point of View

Kristiana C. Varkalhoff
Student, Tarpon Springs High School; Florida, USA

SAFETY IN AMERICAN SCHOOLS: A STUDENT’S POINT OF VIEW
By Kristiana C. Varkalhoff

288 school shootings in the United States since 2009

Canada 2
France 2
Germany 1
Japan 0
Italy 0
UK 0

Gun Ownership Rates

MENTAL HEALTH and YOUTH

13% of children age 5-11 experience a mental health condition
13-20% of children living in poverty
50% of children with a mental health condition are not receiving treatment
17% of high school students seriously consider suicide
1/2 of all lifetime cases of mental illness begin in childhood
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How to Respond in an Active Attacker Situation
Run
Hide
Fight

Odds of using Juul
16x more likely to use Juul compared with those aged 25-34.

Figure 9 — Percent of students ages 12 through 19 who reported that street gangs were present at school, by race/ethnicity: 1995 and 1999

Prayer
Arms
Hammer
Knife
Resolving Contemporary HSE Issues in the Middle East

Abdul Rafiu Zakari
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1. Aim
To identify global HSE opportunities with regional challenges with specific regional solutions that should help members of WSO achieve the mandate set.

2. Questions?
How does one membership to “WO” help to promote productive added value to the respective HSE challenges we face in our various fields?

3. Overview
In Qatar, Ashghal is responsible for design, deliver and manage all infrastructure related projects. This is achieved through various contracts with companies in the region. Examples of projects: Construction and maintenance of roads, drainage networks, highways and public buildings like mosques, schools, hospitals, etc.

Consultants are required to monitor the activities of contractors on behalf of Ashghal. Due to pressures from consultants, Ashghal upon contractors to meet project deadlines, we continue to collect more commitments to “work progress” and less on “HSE procedures” within the “Construction Industry.”

We are looking to initiate a universally acceptable HSE “fit for purpose” solution for all identifiable HSE issues that would promote the relevance of WSO within the region.

4. Introduction
What organizations are available to support HSE in construction industries and to demand genuine HSE commitment from management?

Genuine management’s commitment and support is crucial to HSE success in any organization. This is a huge challenge in the construction industry. Why? Because, the absence of a strong universal HSE legislative body for construction sector in Qatar allows for organizations to impose their existing HSE systems upon HSE departments.

The acceptance of HSE procedural changes within organization is almost impossible without the commitment of management to implement new procedures. In between the demands of the consultants, work progress demands and the lack of a strong universal HSE legislative power body in Qatar in validating, promoting and implementing HSE newly proposed procedures, the existing system of the organization tends to dominate to a larger extent upon the proposed procedures suggested by HSE teams.

5. Discussion
1. The need for a strong WSO legislative body to validate and support HSE interest in various organizations by engaging and promoting WSO HSE inspection globally.
2. The need to reach out to Ashghal client, consultants and contractors on a universal HSE legislative procedure applicable in the region.
3. The need to support members to discontinue “imposition of existing poor HSE systems,” through dialogue, training, and seminars.
4. The need to positively engage with those whose authorities are required to attract management commitments to support HSE in construction industries.

6. Question
- What ways can WSO help to solve the challenge?
- Can “WSO” take the lead to provide legislative HSE body that could support and validate the members across the region within the construction industry?
- How does WSO intend to break out to organizations in achieving above?
- What ways can WSO help strengthen member presence and relevance globally through membership?

7. Proposed Solutions
- Fit for purpose HSE solution based on the understanding of the region
- The responsibility to upgrade competency levels and to improve relationships with concerned departments whose support is required to add value within this region.
- Renew communication to raise awareness regarding regional challenges and resolve.

8. End Note
“We make a living by what we get. We make a life by what we give.”
-Winston S. Churchill

Thank you.
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