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Millennials and Safety: The Employment Game

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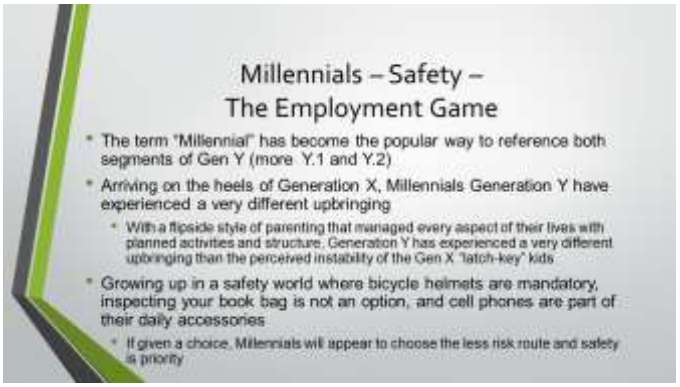

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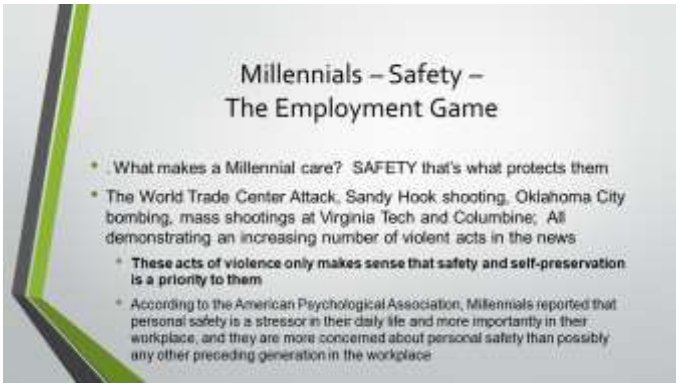

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Millennials – Safety – The Employment Game

- 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

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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 such as 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
- Texting is the preferred form of communication for millennials – entire conversations can be had through text conversation

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Millennials – Safety – The Employment Game

Getting Millennials attention to even examine safety as a job requires a barrage of streaming, cell calls, texting, Facebook, Twitter, Emails, chats, or some other high tech means of solicitation – They are addicted

BEST PRACTICES

BREAK THE SMARTPHONE ADDICTION

"It's really good to do these things with somebody," Simon Sinek says. "I really started to wean myself off my phone with an ex-girlfriend. We made the decision together that we were going to put our cellphones on a shelf. One of us would get up and get a drink and call the other one if it was OK to check. And it became really balanced and moderated.

"And we'd go out to dinner, and both of us would leave our phones at home. Or if I brought mine, I would give it to her to carry. So I didn't have it on me even though we had my phone. It was really awful at the beginning and uncomfortable, and you definitely notice the withdrawal. But after a little bit of time, it actually gets kind of easy."

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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 text marketing 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

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Millennials – Safety – The Employment Game

- To get ahead in the safety business
- Employers must develop an interactive community that puts millennial consumers to work 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 that your concern for your workers to be safe and enjoy life is the message
- How do you make Safety fun?
- The fun and engaging factor of a Safety Professional business will provide it with more attention, pulling in other millennials who want to be an active members of a growing safety culture or growing community which sets them in high gear and promotes a conducive and interactive workplace
- Millennials show that Safety is all about having fun and enjoyment while getting the job done safely

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Millennials – Safety – The Employment Game

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

- 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

- Millennials don't make business strictly business, business has to make them feel excited to be part of it

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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

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Millennials – Safety – The Employment Game

- DO'S
- Millennials see safety as the requirement to protect themselves as the Police are there to stop in-despicable acts from occurring especially in the work-place. Engage Them
- They are equally quick at solving problems be if physical or mental challenges and can tell you very quickly if a regulation is pertinent to the situation or not. Challenge Them
- DON'Ts
- Arguing with a Millennial is a moot point. If the data shows they are correct then mostly they make their point and become silent
- Their generation is constantly being talked down upon, so don't do it
- Don't take their cell away at work, they become nervous, suspicious, and ambivalent towards work

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Millennials – Safety – The Employment Game

TRAINING

18

Millennials – Safety – The Employment Game

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Millennials – Safety – The Employment Game

- Training is not Training the way we are use to providing Training for Millennials
- Millennials and later generations were born into a digital world. (These days, by the time the average Millennial American has turned 21, they've spent 6,000 to 9,000 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 in 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

Video Games - Millennials

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Millennials – Safety – The Employment Game

- It makes sense for training programs to use games, since Millennial brains are already working that way
- Training games use techniques from the game world like 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 student has to interact with the material being taught, are associated with greater academic achievement

- Gamification of Training
- Gamified training can also change habits, through repeated retrieval and spaced retrieval
- Retrieval practice forces learners to recall information, rather than just listen or read it
- Spaced retrieval is providing the learner with quizzes or course content spaced over time, and combined with retrieval practice it multiplies the effect and improves recall performance by as much as 35% to 60%

Anything that boosts employee engagement is good for business and training!

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Millennials – Safety – The Employment Game

RETENTION

23

Millennials – Safety – The Employment Game

- Millennials are not totally bias to the workplace as it stands today
- Millennials don't want to get rid of everything that worked for previous generations
- They do not want work demands interfering with their personal lives
- They are even willing to accept 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, and
- A few corporate perks thrown-in to sweeten the deal
- Being raised in a layoff culture has led them to view loyalty in terms of months, not years. Also, their mobile technology-centric lifestyles have made them view the traditional, 9-5, cubicle-dwelling work arrangement as outdated

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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 critique
  - Adopt a 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

- 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 Deloitte study this year revealed that only 28% of Millennials believe employers are making full use of their abilities, and they aspire to apply all their talents to their 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

CONCLUSION

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Millennials – Safety – The Employment Game

#1. Encourage their own leadership through reverse mentoring that enables Millennials to share their knowledge of technology or their unique approach to finding solutions, and involve them in intergenerational teams which benefit everyone.

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Millennials – Safety – The Employment Game

- The millennial voting bloc has already helped make some progress on changing the safety culture
- Throughout the 2000s, when voting millennials were coming of age, OSHA and similar organizations made several significant improvements to workplace safety laws and expectations
- Millennials
  - **Put Safety First**
  - **Take security precautions**
  - **If your workplace has specific safety concerns, retrain staff**
- By taking sensible precautions and listening to the priorities of America's younger working generations, we can all breathe a little easier at work

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Millennials – Safety – The Employment Game

Thank You

Any Questions?

1910.132-138 Personal Protective Equipment

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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 absorpt physical contact.

5

1910.132(d)- Hazard Assessment

- (1)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)
- If hazards are present the employer shall:
  (i)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

7

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

8

1910.132(f)- Training

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

9

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;
- (4)- Verify that each employee has received and understood the required training through a written certification that contains:
  - -The name of each employee trained;
  - -The date(s) of training, and that
  - -Identifies the subject of the certification
  - (3)- When the employer has reason to believe that any affected employee who has already been trained does not have the understanding and skill required by paragraph (f)(2) of this section, the employer shall retrain each such employee.

10

Routes of Exposure

Inhalation- Breathing it in
Absorption- Through the skin
Ingestion- Swallowing

Is there a 4th route of exposure?

11

1910.133- Eye and Face Protection

(a)(1)- Ensure that each affected employee uses appropriate eye or face protection when exposed to eye or face hazards from:

- Flying particles,
- Molten metal,
- Liquid chemicals, acids or caustic liquids,
- Chemical gases or vapors, or potentially injurious light radiation

12

1910.133- Eye and Face Protection

- (a)(2)- Ensure that each affected employee **uses** eye protection that provides side protection when there is a hazard from flying objects.
  - Detachable side protectors (e.g. clip-on or slide-on side shields) meeting the pertinent requirements of this section are acceptable.
- (a)(3)- Ensure that each employee who wears prescription lenses while engaged in operations that involve eye hazards
  - Wears eye protection that incorporates the prescription in its design, or
  - Wears eye protection that can be worn over the prescription lenses
  - Without disturbing the proper position of the prescription lenses or the protective lenses

13

CFR 1910.134

Respiratory Protection

14

1910.134(a)(1)- Permissible practice

- Workplace respiratory hazards: dusts, mists, fogs, fumes, sprays, smokes 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

15

1910.134(c)(1)- Respiratory protection program

Where respirators are required you need:

- Written program
- Worksite-specific procedures

Required elements:

- Training
- Fit testing
- Medical evaluations
- Care and maintenance
- Procedures for respirator selection
- Procedures for routine & emergency use

16

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 its use does not present a health hazard to the user.

***Written program not required for voluntary use of dust masks**

17

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.

18

1910.134(e) Medical evaluations

(1)- Medical evaluations provided **before**:

- Fit testing
- Worker respirator use

(2)(i)- Identify a physician or other licensed health care professional **(PLHCP)** to perform medical evaluations using a medical questionnaire:

(ii)- Obtain the information requested by the questionnaire in Sections 1 and 2, Part A of Appendix C.

19

CFR 1910.135

Head Protection

20

1910.135(a)- General requirements

- (1)- 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
- (2)- 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

21

Classes and Types of Hard Hats

- **Type I hard hats** - intended to reduce the force of impact resulting from a blow to the top of the head
- **Type II hard hats** - designed to provide protection against both side impact (lateral) *and* blows to the top of the head

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CFR 1910.95

Hearing Protection

23

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

24

Types of Hearing Protectors

Earmuffs

Earplugs

Canal Caps

25

CFR 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

27

CFR 1910.138

Hand Protection

28

1910.138(a) General requirements

Employers shall select and require employees to use appropriate hand protection when employees' hands are exposed to hazards such as those from:

- Skin absorption of harmful substances;
- Severe cuts or lacerations;
- Severe abrasions;
- Punctures;
- Chemical burns;
- Thermal burns; and
- Harmful temperature extremes

29

1910.138(b)- Selection

Employers shall base the selection of the appropriate hand protection on:

- An evaluation of the performance characteristics of the hand protection relative to the task(s) to be performed,
- Conditions present,
- Duration of use, and;
- The hazards and potential hazards identified

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1910.132- Body protection summary

- Chemical protective rain suits
- Slip resistant shoes
- Safety glasses
- Face shield
- Gloves
- Hearing protection and respirators (when appropriate)

Prevalence and Associated Factors of Frailty in Community Dwelling Older Adults in Rural and Urban Settings in South Lebanon

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1

Prevalence and Associated Factors of Frailty in Community Dwelling Older Adults in Rural and Urban Settings in South Lebanon

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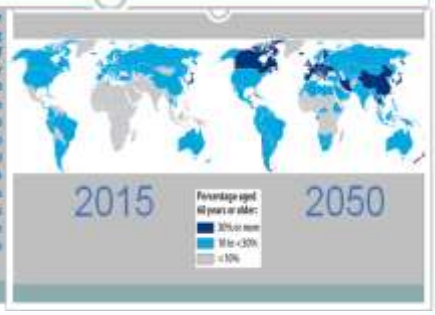
Population: A Global Overview

3

Populations are getting older

Worldwide, the populations are getting older. The number of people aged 60 years or older will rise from 900 million to 2 billion between 2015 and 2050 (jumping from 12% to 22% of the total global population). The following two maps show how populations will be changing in different countries around the globe.



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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 declines in physical and mental capacities at much younger ages.

5

Healthy Ageing is an investment, not a cost

In reality, older people make many positive contributions to society; and 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.

6

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.

7

Outline of the current presentation

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

8

Introduction

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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 to no support.

10

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".

11

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.

12

Introduction (cont.)

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%.

13

Introduction (cont.)

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

There are 36 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.

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Background (The ESCWA region)

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Table 1. Population Growth Rates

Country	Population growth rates				
	1985-1990	2000-2005	2015-2020	2030-2035	2050-2055
Bahrain	27.6	17.6	11.6	7.0	2.1
Egypt	27.0	18.9	10.2	14.1	9.3
Iraq	30.5	29.3	27.6	23.2	18.0
Jordan	30.6	26.1	21.7	15.5	8.9
Kuwait	25.1	18.4	13.0	7.1	2.2
Lebanon	18.9	11.2	10.7	8.1	0.2
Libya	26.8	16.4	13.6	7.3	1.5
Mauritania	30.6	28.4	25.7	21.0	15.7
Morocco	23.3	15.7	14.0	8.0	3.9
Oman	36.6	19.1	14.8	7.7	4.3
State of Palestine	39.6	32.0	27.7	21.2	15.0
Qatar	22.6	16.1	8.4	5.2	2.0
Saudi Arabia	32.6	21.6	15.5	7.6	2.4
Sudan	29.8	28.9	25.0	21.4	15.9
Syrian Arab Republic	33.7	26.1	15.2	14.8	7.7
Tunisia	22.2	13.0	11.2	5.2	2.2
United Arab Emirates	25.6	13.6	7.5	5.8	2.0
Yemen	41.3	29.3	24.3	17.1	9.0
World	17.9	12.5	10.9	7.8	4.8

Source: United Nations, Department of Economic and Social Affairs, *World Population Prospects: The 2015 Revision*.

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Table 2. Percentage of people aged above 60 and 80 in the region compared with world average

Year	Percentage of people above 60		Percentage of people above 80	
	ESCWA	World	ESCWA	World
1985	5.7	8.7	0.5	0.9
2000	6.0	9.9	0.5	1.2
2015	6.6	12.3	0.7	1.7
2030	9.3	16.5	0.8	2.4
2050	14.9	21.5	1.9	4.5

Source: United Nations, Department of Economic and Social Affairs, *World Population Prospects: The 2015 Revision*.

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Table 3. Countries with minimum and maximum percentage of persons aged above 60

Year	Minimum		Maximum		Difference
	Country	per cent 60+	Country	per cent 60+	
1985	Qatar	2.0	Lebanon	7.9	5.9
2000	United Arab Emirates	1.7	Lebanon	10.4	8.7
2015	United Arab Emirates	2.3	Tunisia	11.7	9.4
2030	Yemen	5.3	Lebanon	19.2	13.9
2050	Iraq	8.8	Lebanon	30.8	22.0

Source: United Nations, Department of Economic and Social Affairs, *World Population Prospects: The 2015 Revision*.

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Figure 1: Percentage of population 60 years and over (2015 and 2030)
Source: *World Population Prospects, 2017*

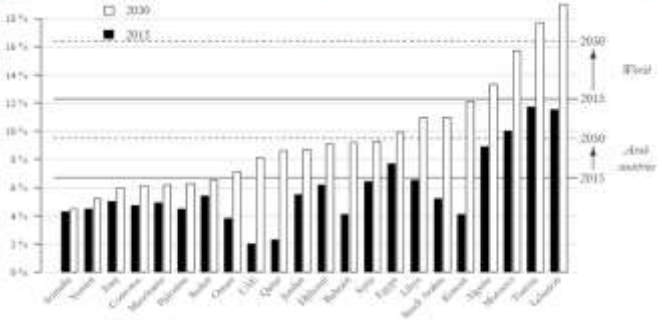

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Figure 2: Prevalence of hypertension, diabetes, obesity and smoking among older Arabs by gender

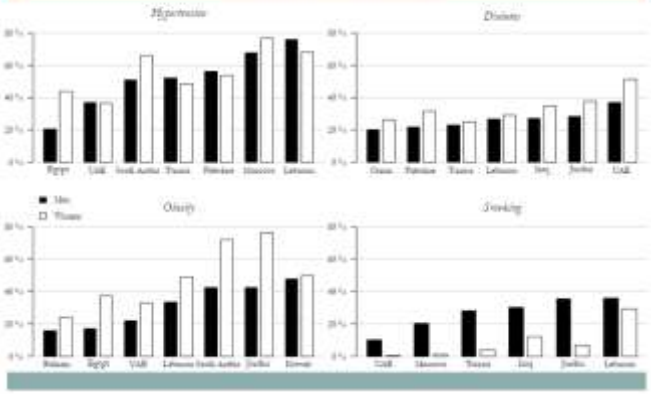

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Table 4. Classification of ESCWA member States by ageing index, 2030 and 2050

	Country	Ageing index 2030		Countries	Ageing index 2050
SLOW	Iraq	9.3	SLOW	Iraq	18.0
	Yemen	10.6		Mauritania	19.0
	State of Palestine	11.0		Sudan	20.4
	Mauritania	11.4		Yemen	23.7
	Sudan	11.6		State of Palestine	24.0
MODERATE	Jordan	17.9	MODERATE	Egypt	40.5
	Syrian Arab Republic	20.6		Jordan	48.3
	Egypt	22.6		Syrian Arab Republic	52.7
	Kuwait	24.1		Kuwait	80.0
	Oman	27.9		Saudi Arabia	81.7
	Qatar	28.6		Libya	86.2
	Saudi Arabia	29.8			
	Libya	32.8			
RAPID	Bahrain	41.7	RAPID	Oman	111.7
	Morocco	45.4		Tunisia	112.6
	United Arab Emirates	50.6		Qatar	113.5
	Tunisia	58.0		Bahrain	128.2
	Lebanon	72.8		United Arab Emirates	139.6
				Lebanon	162.9

Source: United Nations, Department of Economic and Social Affairs, *World Population Prospects: The 2015 Revision*

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Research Objectives

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Research objectives

- To determine the prevalence of frailty in both rural and urban areas in south Lebanon.
- To compare the factors associated with frailty in rural and urban areas.

Frailty Criteria:	
Weight loss (unintentional)	> 4.5 KG in last year
Exhaustion (Self-reported)	" how often did you feel this way?" if > 3-4 days its positive
Low activity	Males < 383Kcals/ week Females <297 Kcals/week
Grip Strength	based on Gender and BMI and compared to set of predefined values
Walk time (4.57 m)	based on Gender and Height and compared to set of predefined values

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Methods and Materials

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Methods and Materials

- Quantitative, cross-sectional population-based study design.
- Cluster sampling method: 400 subjects in south Lebanon: 200 from Sidon and 200 from Nabatiyeh.
- Data collection: frailty phenotype and population characteristics.

1. GDS (Geriatric Depression Scale)
2. MMSE (Mini-Mental State Examination)
3. ADL (Activities of Daily Living)
4. IADL (Instrumental Activities of Daily Living Scale)

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Study Results

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Figure 3. FRAILTY LEVEL distribution in Urban and Rural areas

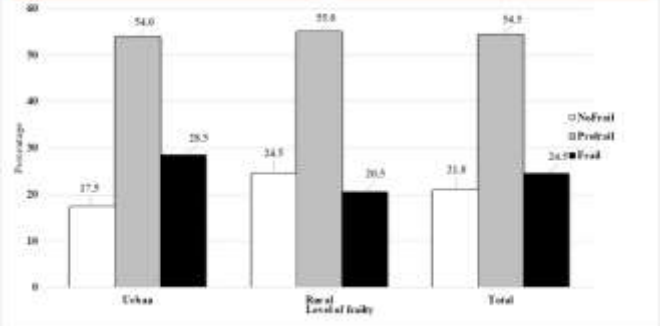

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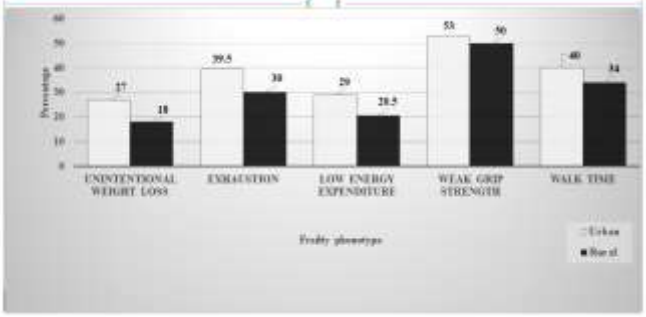
Figure 4. FRAILTY PHENOTYPE distribution in Urban and Rural areas



28

Figure 5. AGE distribution in years in Urban and Rural areas

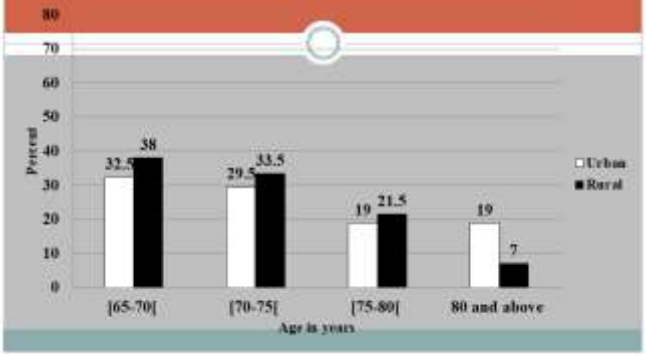


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Figure 6. AGE distribution in years by Frailty and Residence

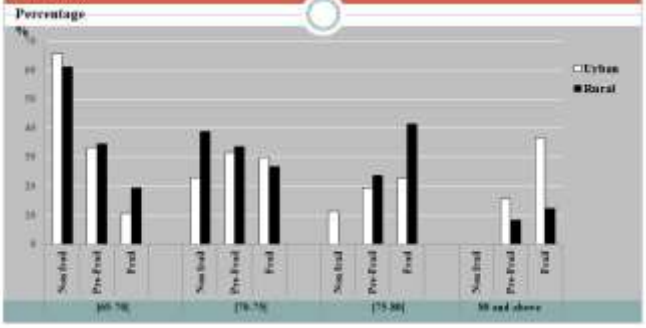

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Figure 7. Gender distribution in Urban and Rural areas

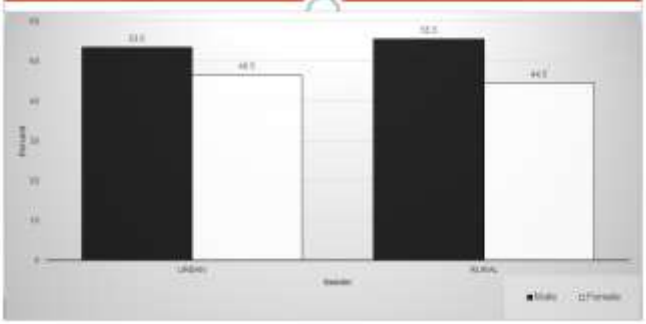

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Figure 8. Gender distribution by Frailty and Residence

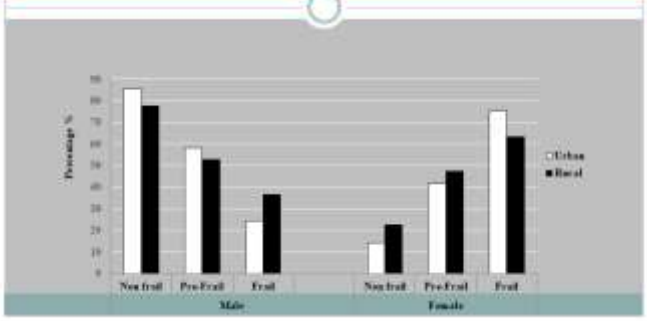

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Figure 9. MARITAL STATUS distribution in Urban and Rural areas

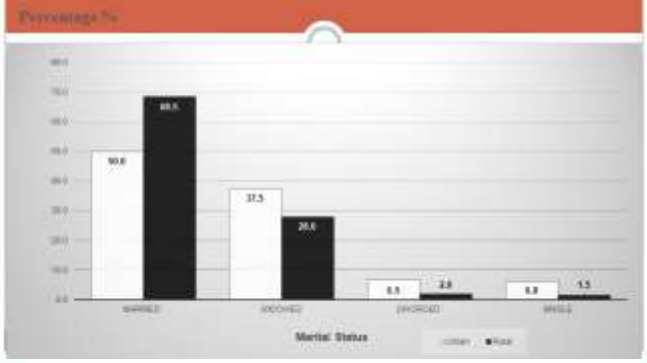

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Figure 10. MARITAL STATUS distribution by Frailty and Residence

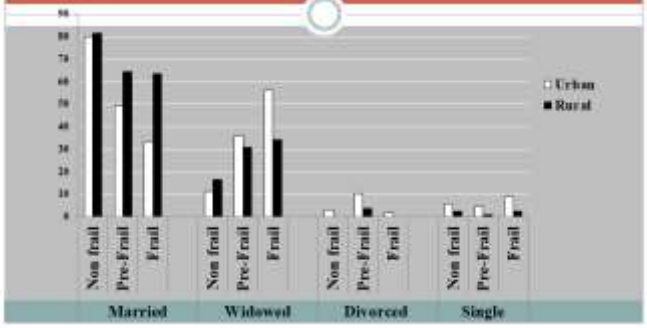

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Figure 11. FINANCIAL SUPPORT distribution in Urban and Rural areas

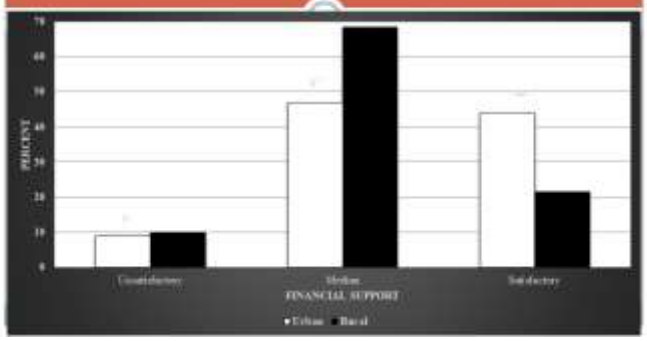

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Figure 12. FINANCIAL SUPPORT distribution by Frailty and Residence

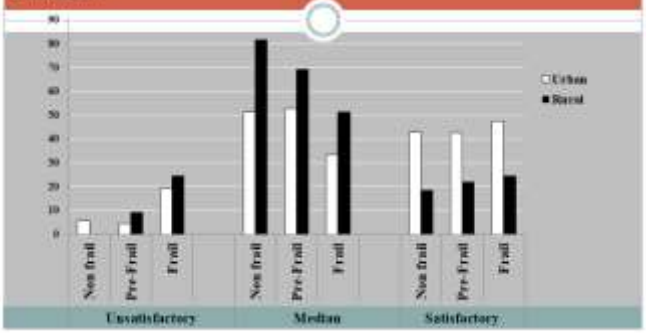

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Figure 13. HEALTH GUARANTOR distribution in Urban and Rural areas

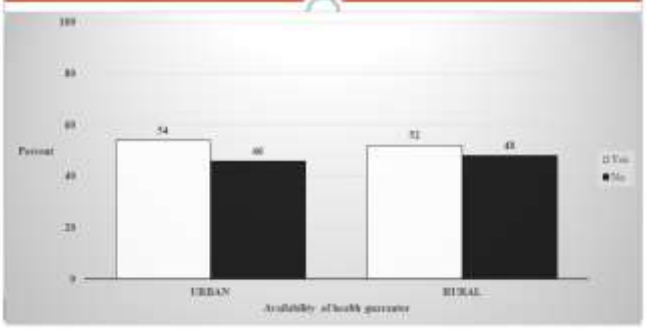

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Figure 14. HEALTH CARE GUARANTOR distribution by Frailty and Residence

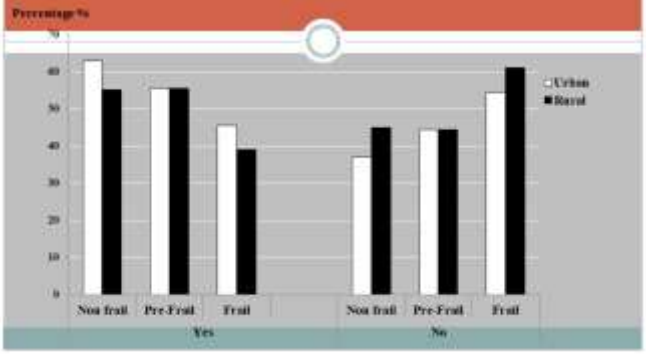

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Figure 15. LEVEL of EDUCATION distribution in Urban and Rural areas

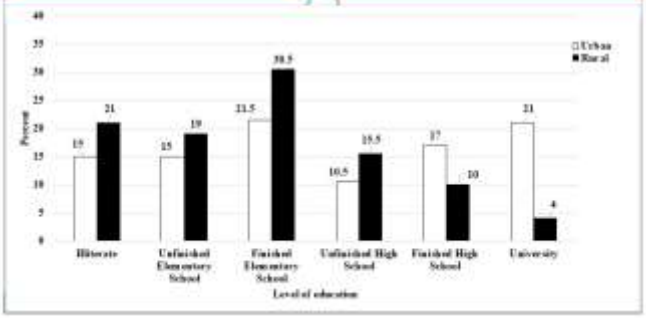

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Figure 16. EDUCATIONAL LEVEL distribution by Frailty and Residence

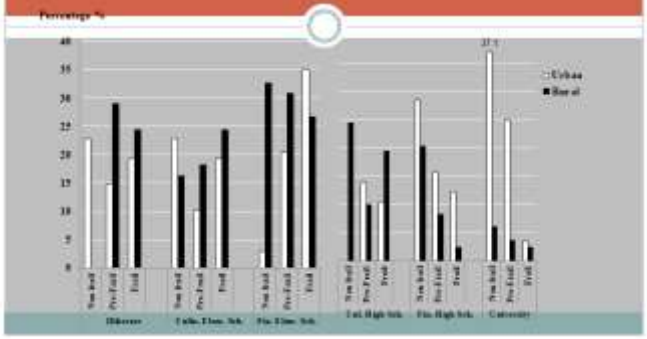

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Figure 17. LIFE EVENTS of ABUSE distribution in Urban and Rural areas

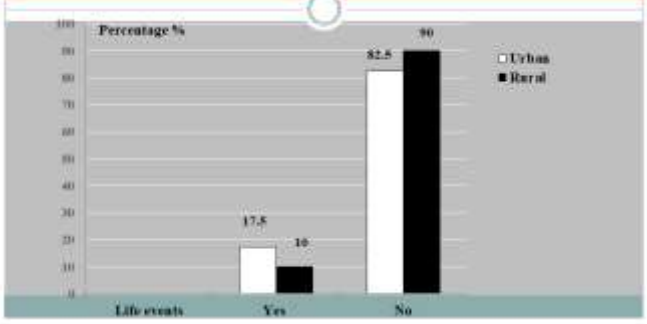

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Figure 18. LIFE EVENTS of ABUSE distribution by Frailty and Residence

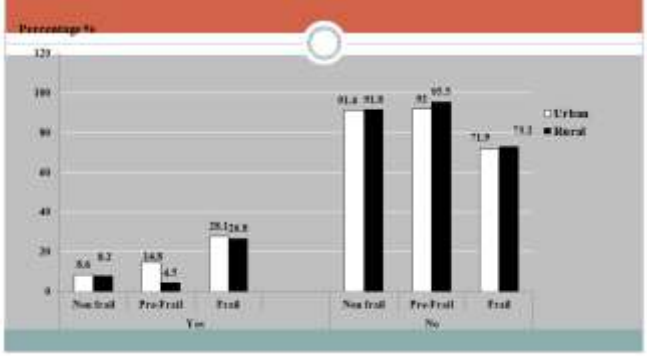

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Figure 19. CHRONIC DISEASES distribution in Urban and Rural areas

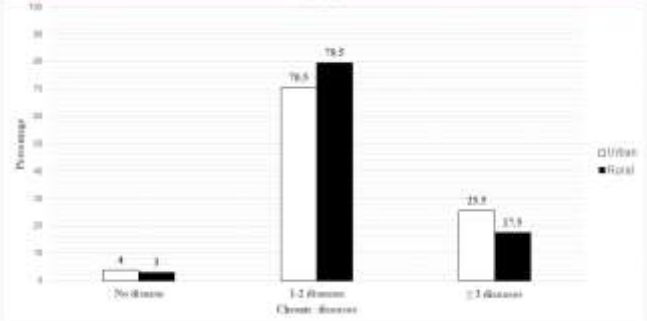

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Figure 20. CHRONIC DISEASE distribution by Frailty and Residence

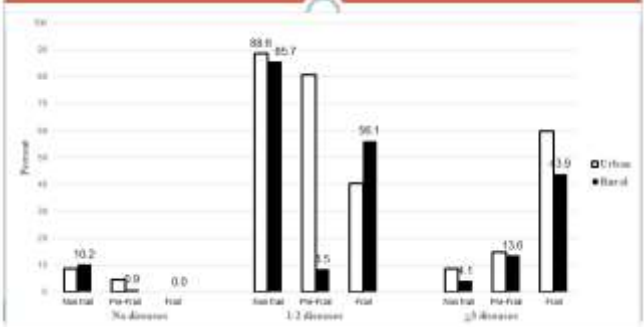

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Figure 21. NUTRITIONAL STATUS distribution by BMI and Frailty in Urban and Rural Areas

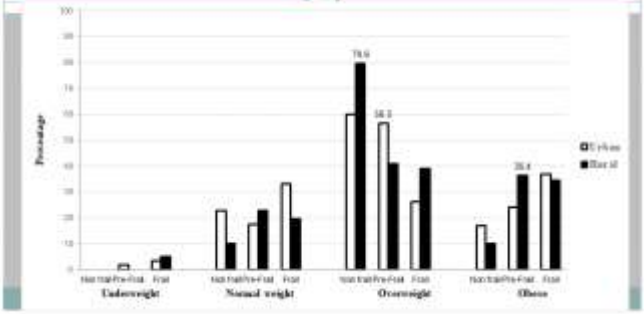

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Figure 22. VISUAL PROBLEMS distribution in Urban and Rural areas

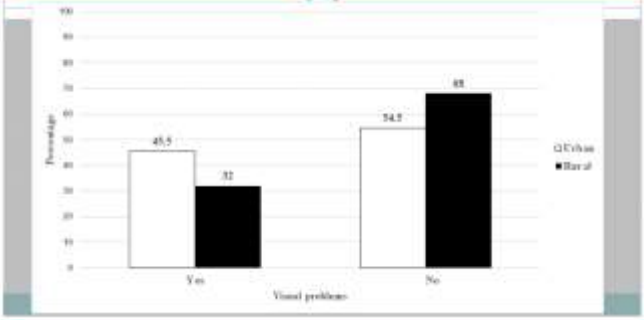

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Figure 23. VISUAL PROBLEM distribution by Frailty and Residence

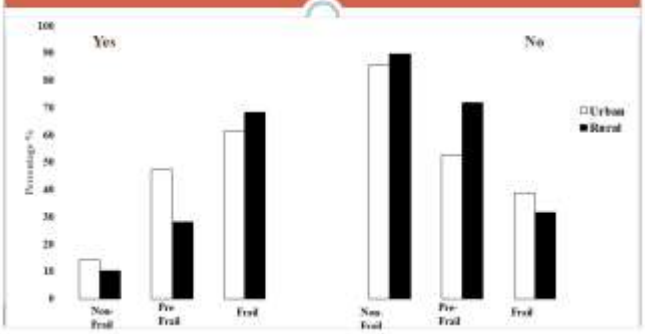

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Figure 24. POLYPHARMACY distribution in Urban and Rural areas

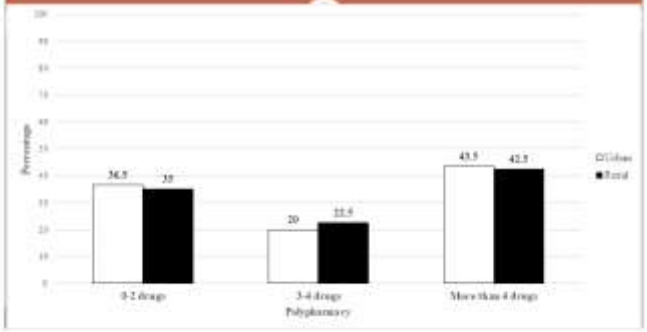

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Figure 25. POLYPHARMACY distribution by Frailty and Residence

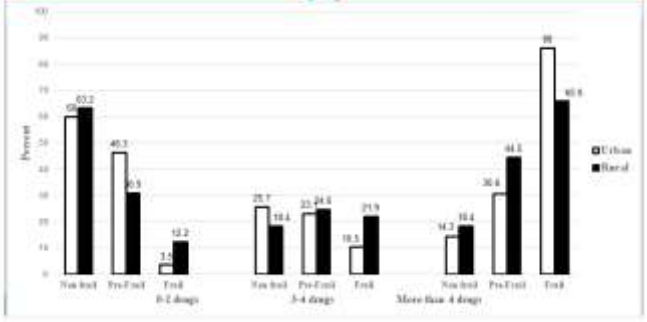

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Figure 26. DEPRESSION distribution by Frailty and Residence

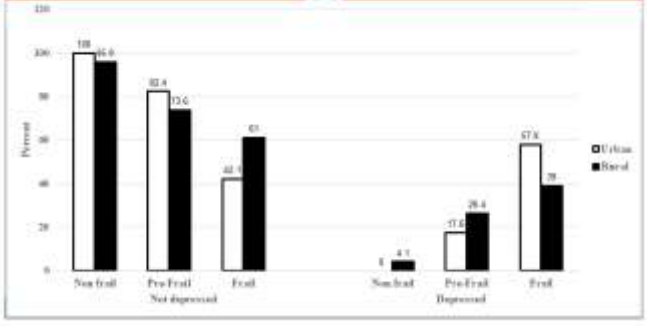

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Figure 27. LONELINESS distribution in Urban and Rural areas

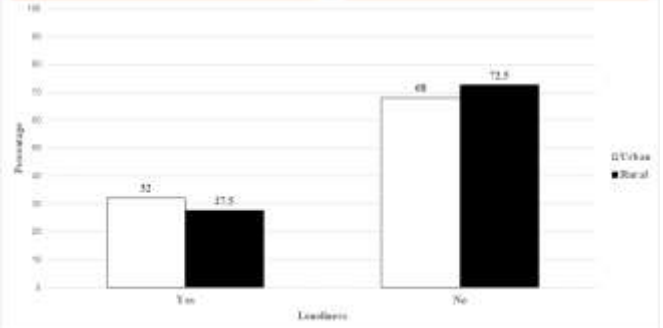

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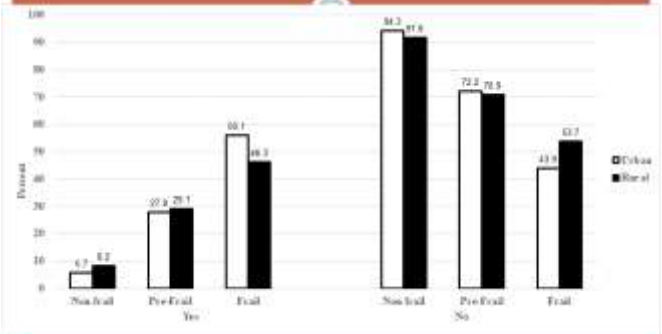
Figure 28. LONELINESS distribution by Frailty and Residence



52

Figure 29. PERCEPTION of HEALTH distribution in Urban and Rural areas

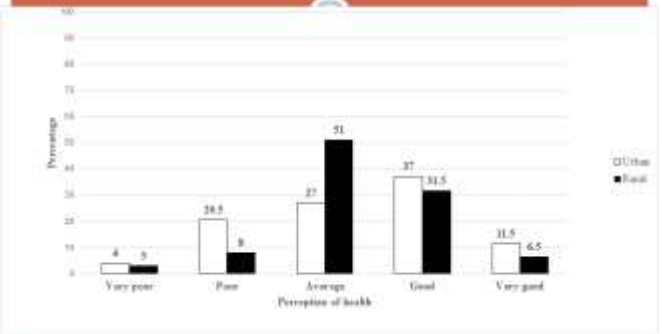


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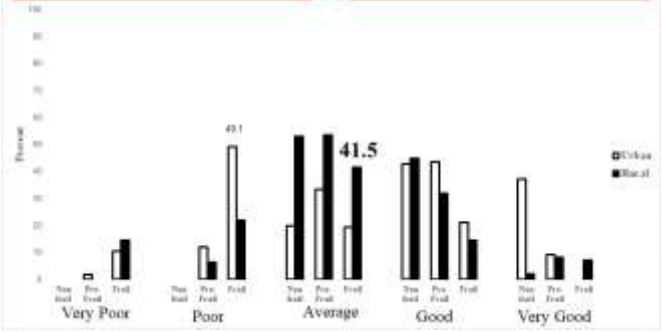
Figure 30. PERCEPTION of HEALTH distribution by Frailty and Residence



54

Figure 31. Distribution of the sample by COGNITIVE IMPAIRMENT in Urban and Rural areas

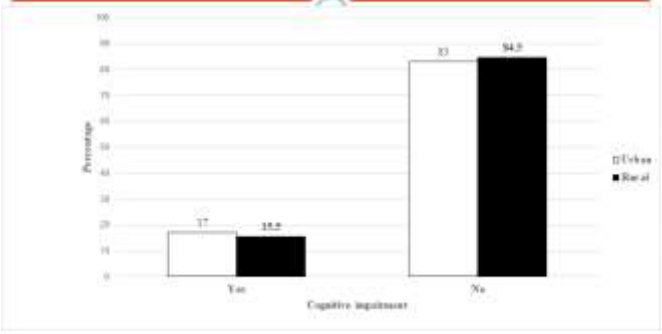


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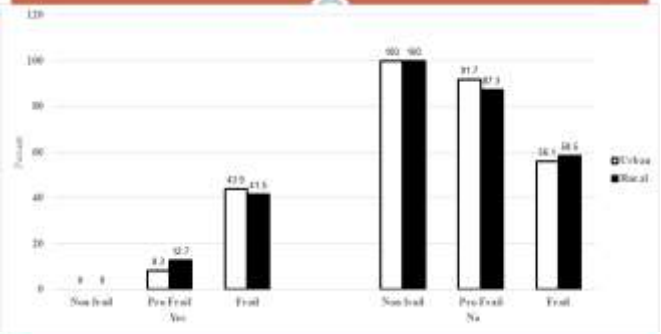
Figure 32. COGNITIVE IMPAIRMENT distribution by Frailty and Residence



56

Figure 33. MMSE by Frailty and Residence

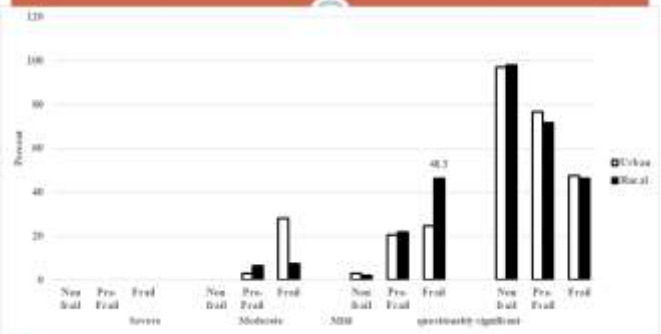


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Figure 34. RECENT HOSPITILIZATION distribution in Urban and Rural areas

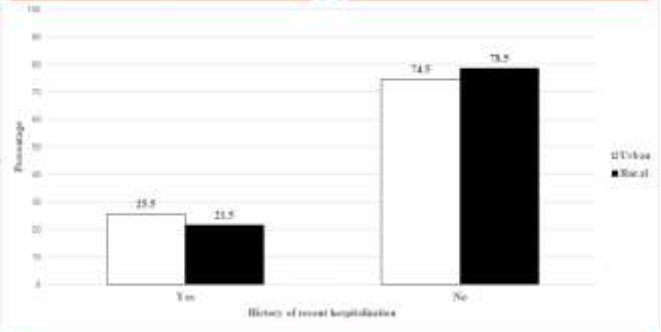

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Figure 35. RECENT HOSPITILIZATION distribution by Frailty and Residence

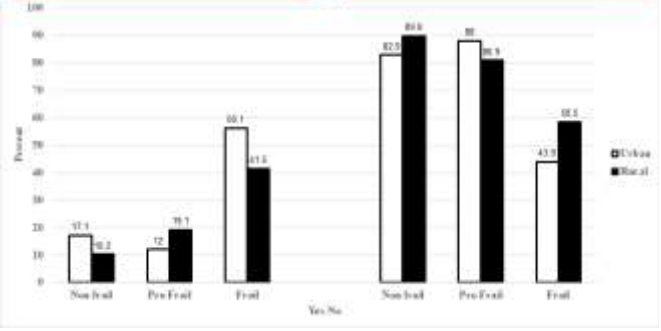

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Figure 36. RECENT FALL(S) distribution in Urban and Rural areas

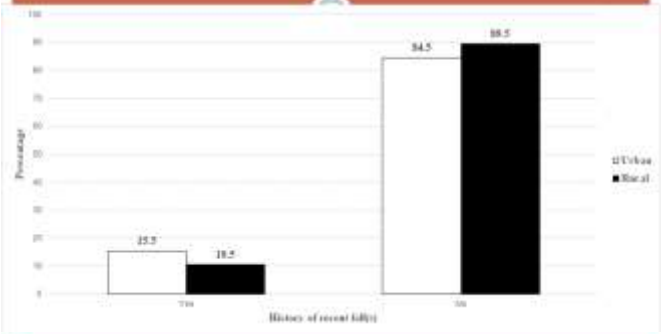

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Figure 37. RECENT FALL(S) distribution by Frailty and Residence

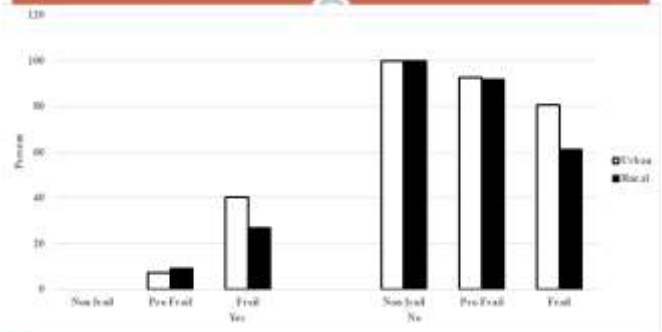

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Figure 38. URINARY INCONTINENCE distribution in Urban and Rural areas

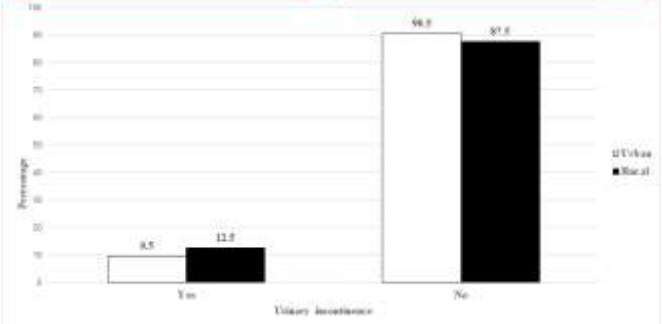

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Figure 39. URINARY INCONTINENCE distribution by Frailty and Residence

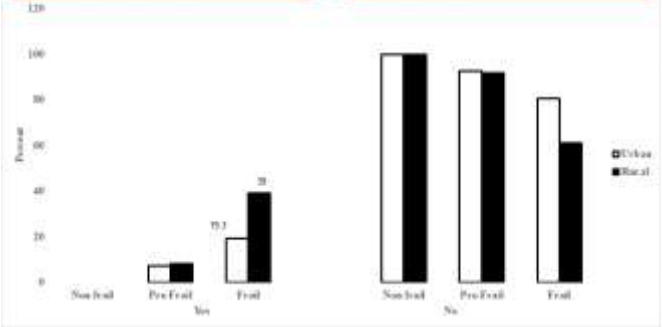

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Figure 40. FUNCTIONAL CAPACITY (ADL) distribution in Urban and Rural areas

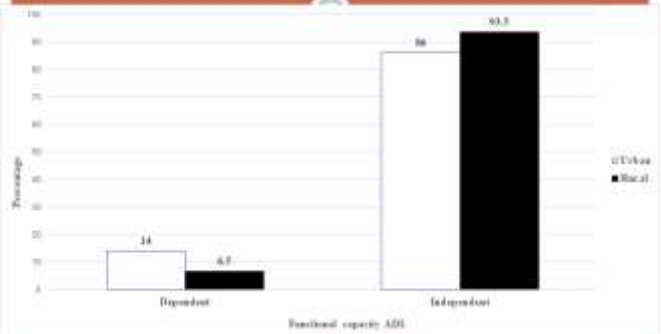

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Figure 41. FUNCTIONAL CAPACITY (ADL) distribution by Frailty and Residence

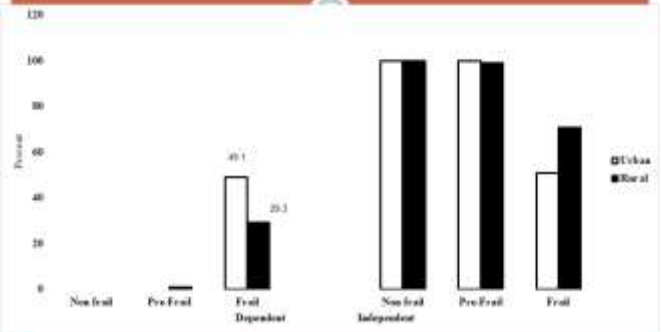

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Figure 42. FUNCTIONAL CAPACITY (IADL) distribution in Urban and Rural areas

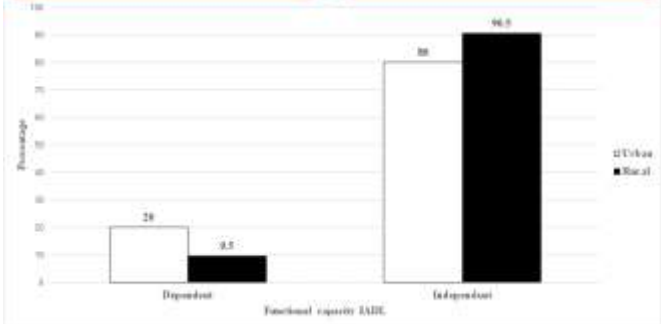

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Figure 43. FUNCTIONAL CAPACITY (IADL) distribution by Frailty and Residence

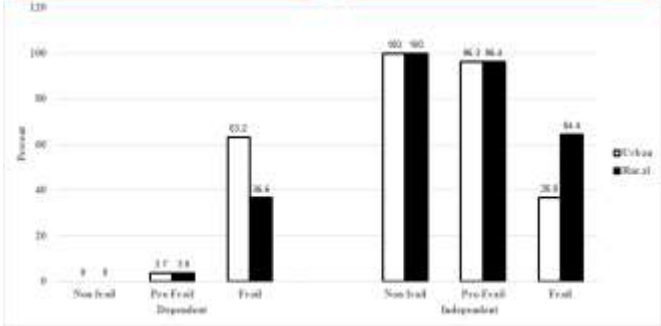

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Figure 44. SMOKING distribution in Urban and Rural areas

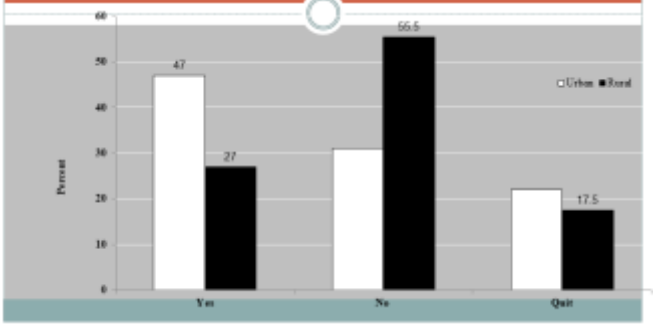

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Figure 45. SMOKING Distribution by Frailty and Residence

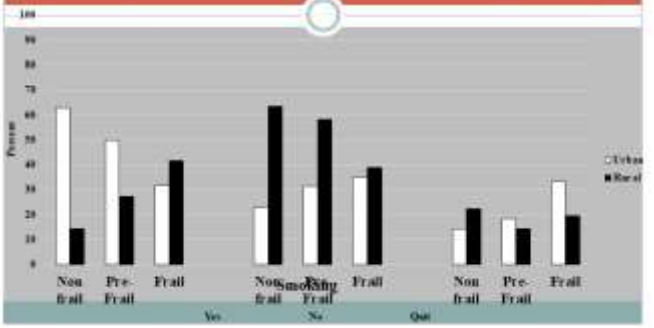

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Figure 46. ALCOHOL CONSUMPTION distribution in Urban and Rural areas

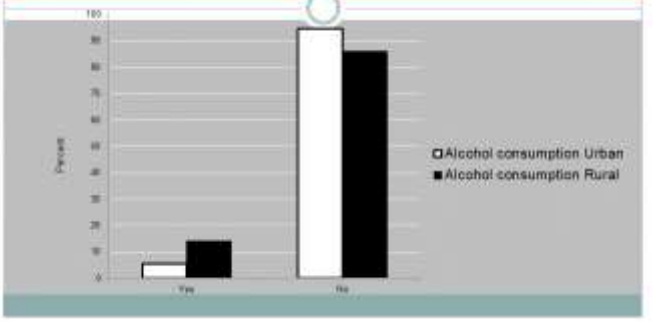

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Figure 47. ALCOHOL CONSUMPTION distribution by Frailty and Residence

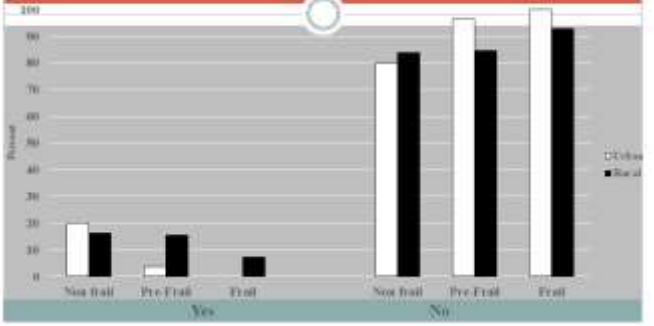

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Figure 48. PHYSICAL EXERCISE distribution in Urban and Rural areas

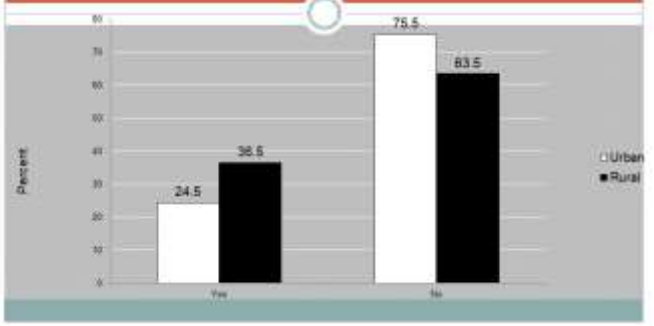

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Figure 49. PHYSICAL EXERCISE distribution by Frailty and Residence

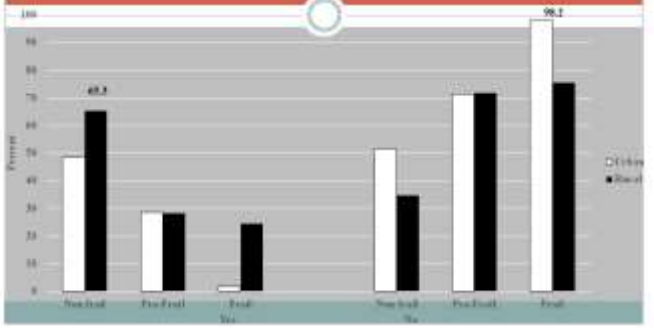

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Figure 50. INVOLVEMENT in AGRICULTURAL WORK distribution in Urban and Rural areas

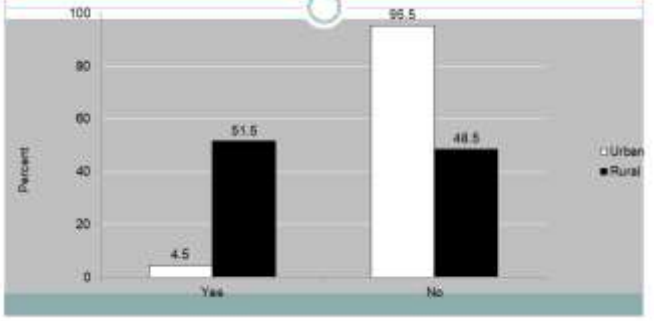

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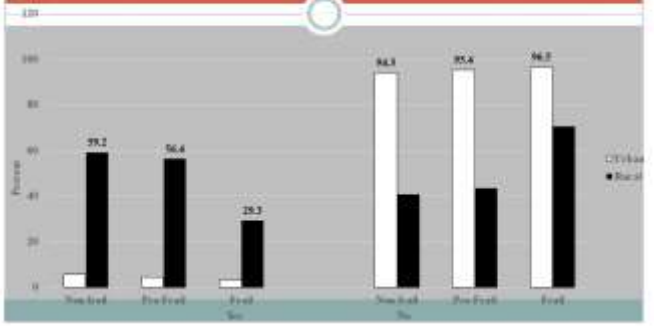
Figure 51. INVOLVEMENT in AGRICULTURAL WORK by Frailty and Residence



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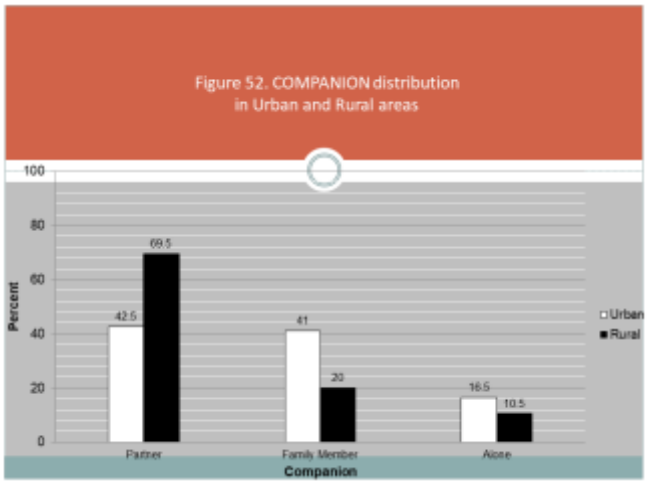

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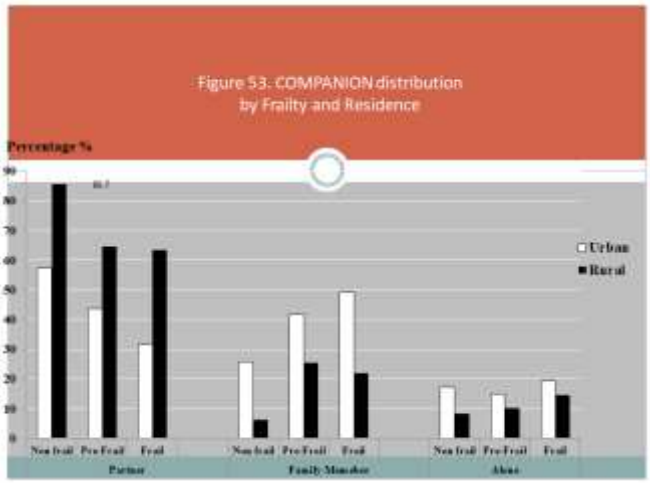

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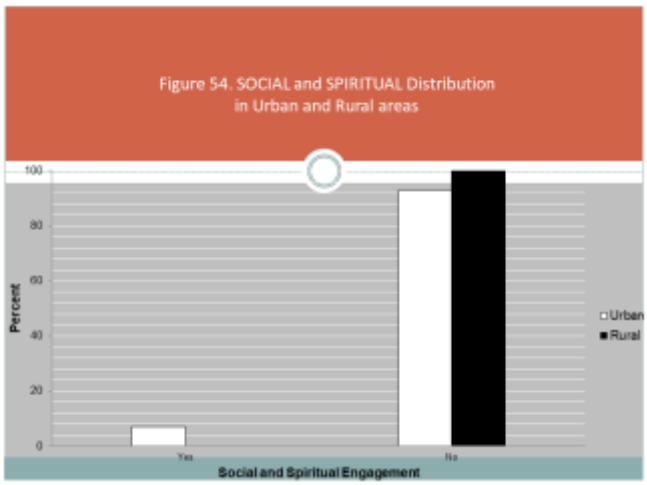

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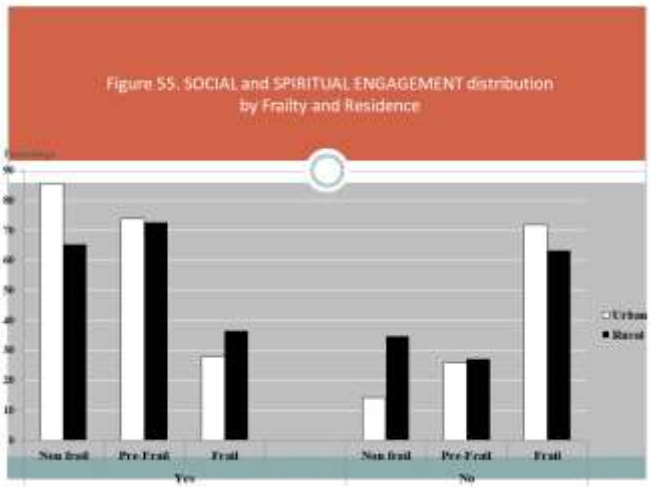

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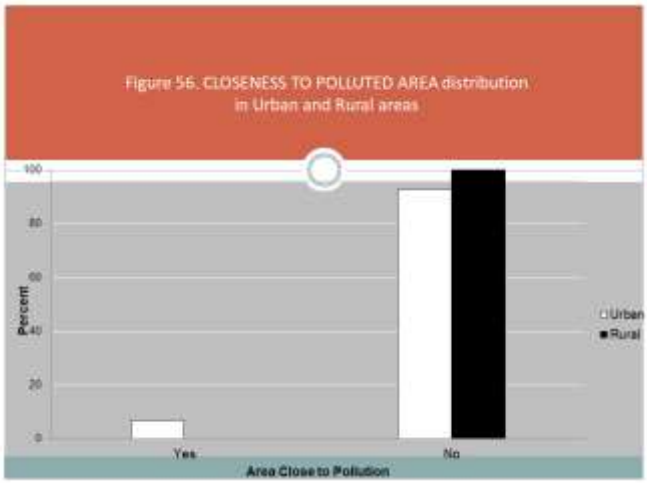

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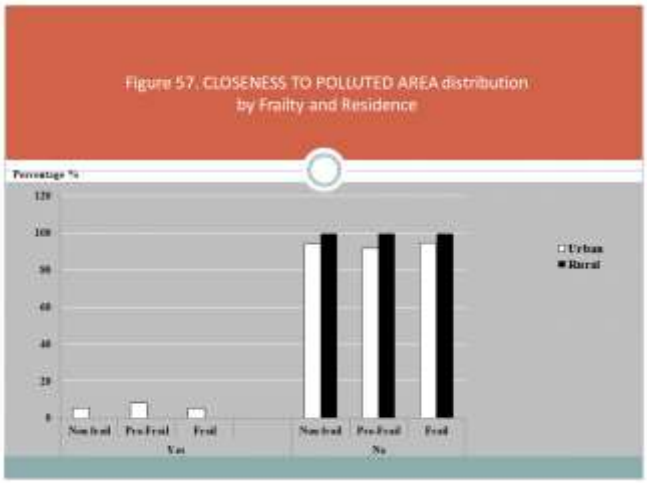

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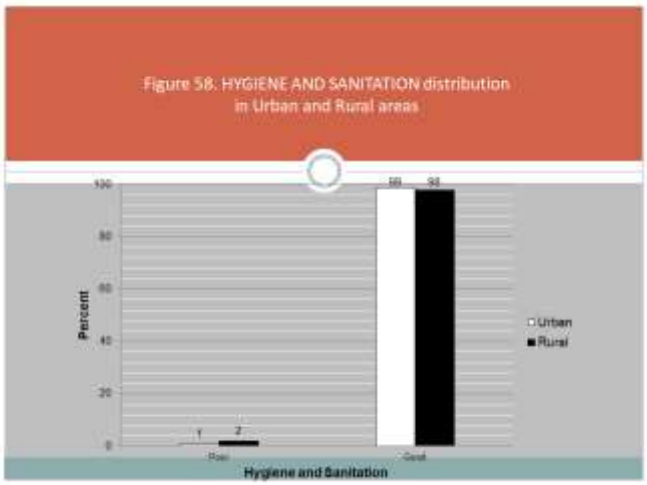

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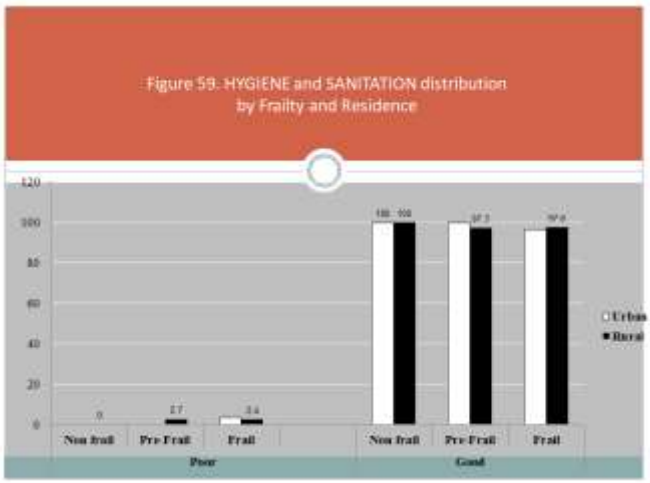

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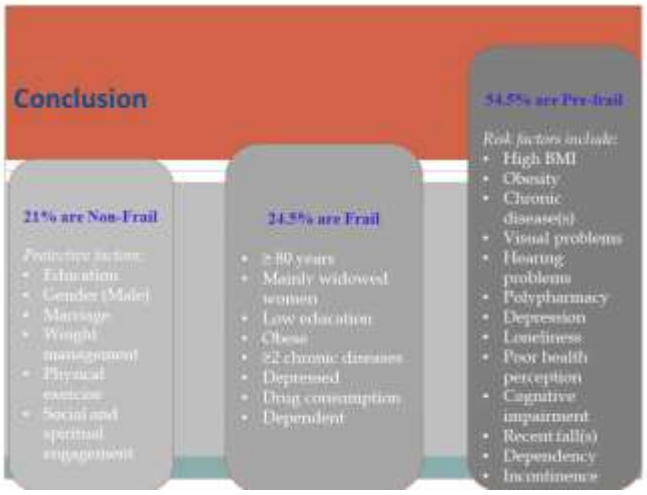
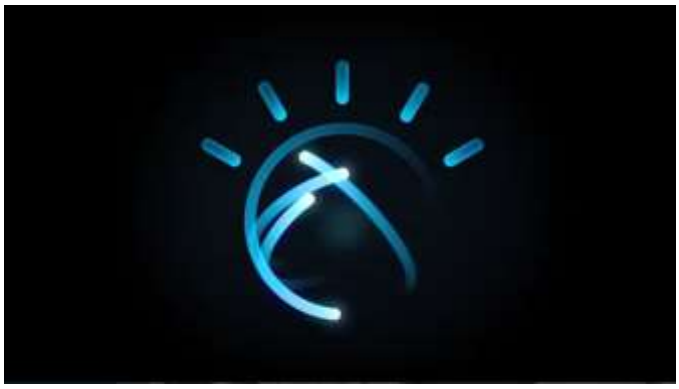


84

Innovational Developments on Health & Safety Programs

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

1



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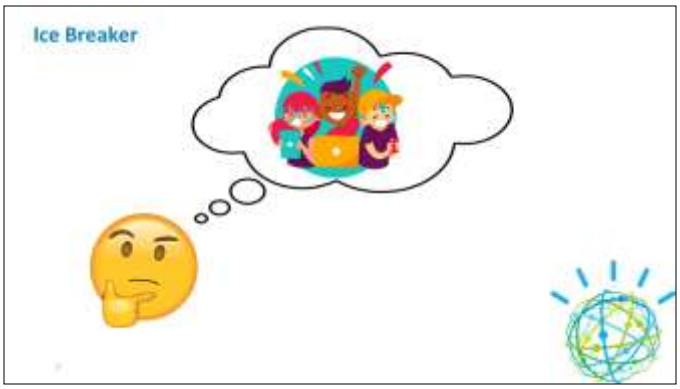

4

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6

7

Statistics : Asia

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

8

Health & Safety Program

"A health and safety program is a definite 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)

9

Benefits

10

Communication

11

Gamification

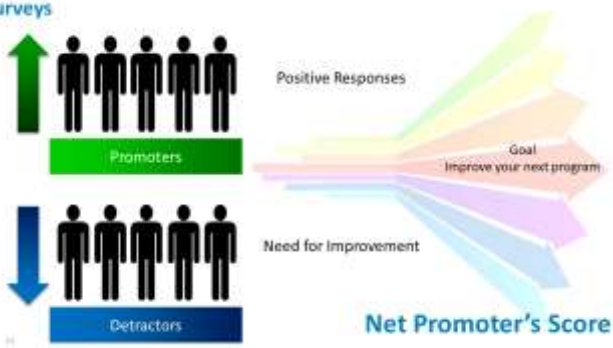
Workplace safety games offer you a fun, budget-friendly, and memorable training tool

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

Smartphone Apps

12

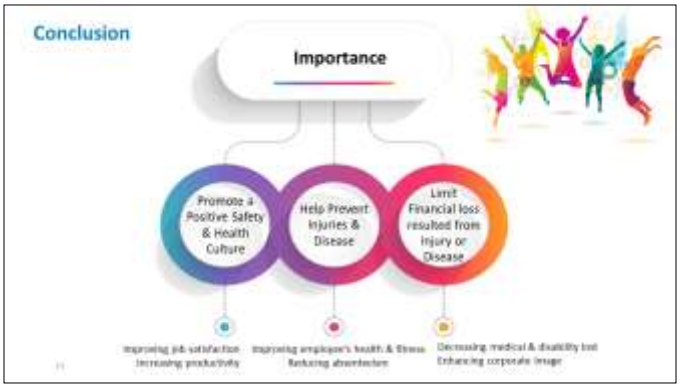
Surveys



Net Promoter's Score

13

Conclusion



14

Disclaimer : I do not own the data, it came from references such as social media, articles, websites & published books applicable to corporate world.

Salamat!

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

Dr. David P. Gilkey D.C., Ph.D., CPE, CSP
Associate Professor of Ergonomics and Safety, Montana Technological University; Montana, USA

1

Montana Tech

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

David Gilkey, D.C., Ph.D., DABCO, DACBOH, 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

GAO, 2010

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

7

0 – 60 mph (97 kph) in 8 seconds
Top speed 80 mph (129 kph)

Up to 2,000 lbs / (907 Kg)
48" – 60" (121-152 cm) wide
Up to 160" (406 cm) long

8

ATV
UTV

9

ROV Fatalities

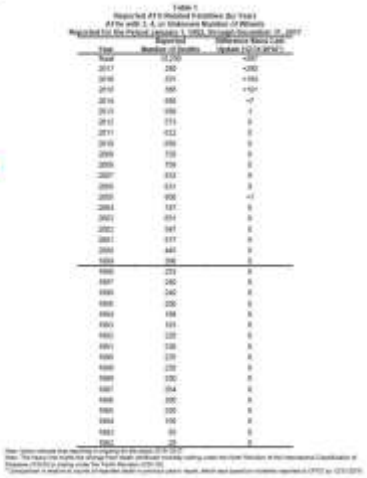
CPSC Fatalities in 1982 through 2019

> 15,250 deaths related to ATV / ROV use and activities in the US

Polaris Marketing Photo

10

CPSC
Fatality #s
1982-2017



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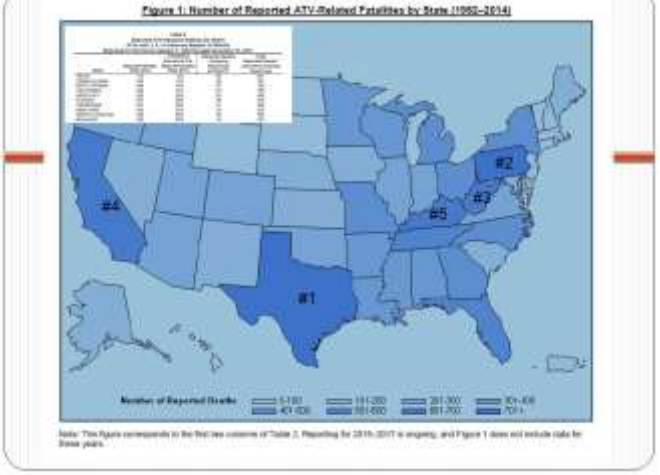


12

ROV Injury in America

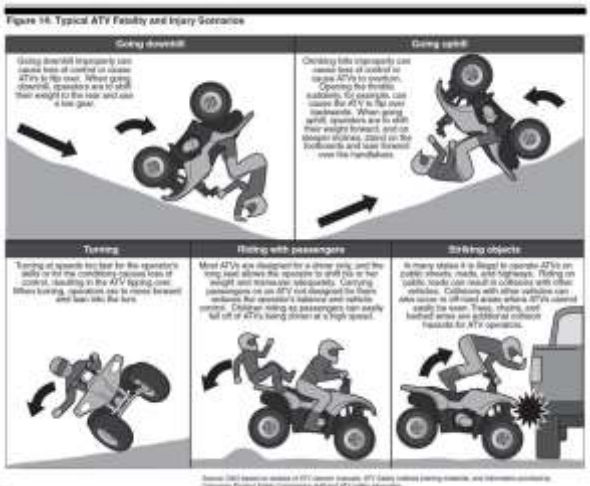
An estimated 400,000 injuries per year
An estimated 100,000 emergency room visits per year!

13

Loss of Control Incidents

Impaired rider
Riding on paved surfaces (~60%)
Rollover
Collision
Passenger
Wrong size
Lack of training

14



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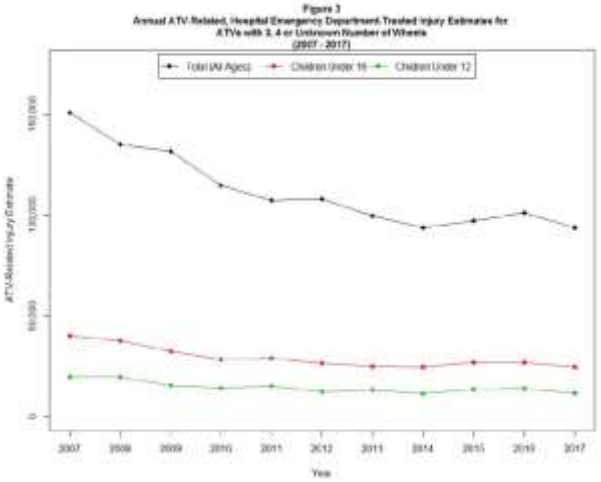
CPSC Data

1193 Cases

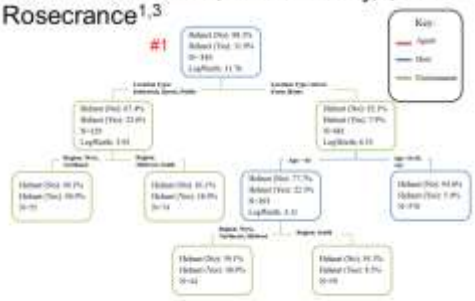
19



16

Modeling Risk Factors of ATV Fatalities in the United States

- Elise Lagerstrom,[1] Sheryl Magzamen,[1,3] Lorann Stallones[2,3], David Gilkey,[1], John Rosecrance[1,3]



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Emergency Room Visits

Figure 5: Disposition of ATV-Related Emergency Department-Treated Injuries for All Ages, 2017

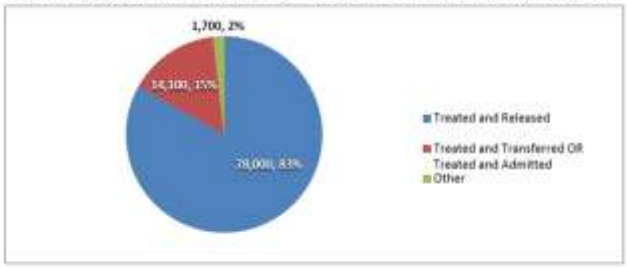

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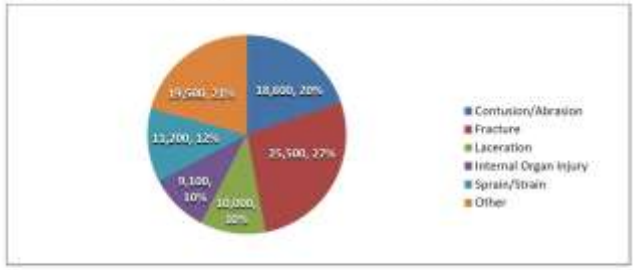
Figure 2: Reported ATV-Related Fatalities by Age Group (2005–2014)

21

Emergency Room Visits Diagnosis

Figure 6: Diagnosis of ATV-Related Emergency Department-Treated Injuries for All Ages, 2017[a]



Types of Injuries

18

Emergency Room Visits

Table 5
Annual Estimates[a] of ATV-Related Emergency Department-Treated Injuries
ATVs with 3, 4, or Unknown Number of Wheels
January 1, 2007, through December 31, 2017

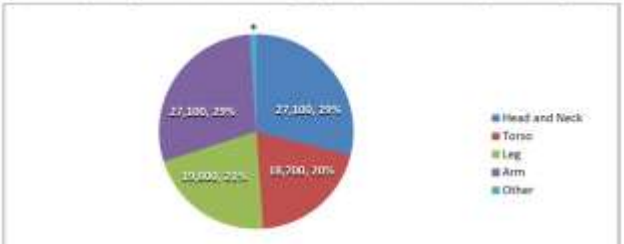
Year	Estimated Number of Injuries: All Ages	Younger than 16 Years: Estimated Number of Injuries	Younger than 16: Percent of Total (All-Ages) Injuries	Younger than 12 Years: Estimated Number of Injuries	Younger than 12 Years: Percent of Injuries to All Children Younger than 16 Years
2017	89,800	24,800	28%	11,700	47%
2016	101,200	26,900	26%	13,900	52%
2015	97,200	26,700	28%	13,400	50%
2014	93,700	24,800	26%	11,400	46%
2013	99,600	25,000	25%	13,100	52%
2012	107,900	26,500	25%	12,200	46%
2011	107,500	29,000	27%	15,100	52%
2010	115,000	28,300	25%	14,100	50%
2009	131,900	32,400	25%	15,500	48%
2008	135,100	37,700	28%	19,900	53%
2007	150,900	40,000	27%	19,800	50%

Note: The coefficient of variation (CV%) for the injury estimates in this table range from 9 percent to 15 percent. See Appendix A for an explanation of the use and calculation of CVs.

22

Emergency Room Visits

Figure 7: Body Part Injured in ATV-Related Emergency Department-Treated Injuries for All Ages, 2017



[a] The corresponding estimate for "other" does not satisfy reporting criteria.

Injury By Body Part

23

OH Epidemiology

65% of Deaths are in Ag

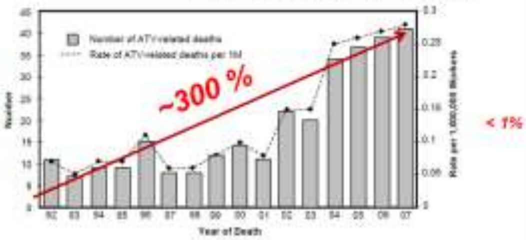


Figure 1. Number and rate of work-related deaths resulting from ATV-related incidents, U.S., 1992-2007. Data for 1992-2002 exclude data for New York City; data for 2001 exclude fatalities that resulted from the September 11 terrorist attacks.

17(2): 147-155 Helmkamp, et al., 2011 148

27

Contents lists available at ScienceDirect

Injury

journal homepage: www.elsevier.com/locate/injury

All-terrain vehicle use related fracture rates, patterns, and associations from 2002 to 2015 in the USA

Jarod A. Richards[a,*], Randall T. Loder[b]

ARTICLE INFO

ABSTRACT

24

Safety (2015)
Vol1
Pages 59-70
doi:10.3390/
safety1010059

safety

ATV-Related Workers' Compensation Claims in Montana, 2007-2012

28

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 80+
- Uneven terrain / Sink holes
- Passengers / Rider +1, 2, 3,…
- Obstacles / Other vehicles
- Moisture / Water / Mud
- Sun glare,
- Maintenance of unit, etc.

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ATV Injuries by Industry

Table 2. Claims by industry group.

Industry	Number of Claims	Percent of Total Claims
Agriculture	126	58.6%
Public Administration	29	13.5%
Construction	15	6.8%
Professional and Technical Services	12	5.6%
Administrative and Support Services	9	4.2%
Utilities	6	2.8%
Arts, Entertainment, and Recreation	4	1.9%
Education Services	3	1.4%
Manufacturing	2	0.9%
Mining	2	0.9%
Retail Trade	2	0.9%
Not Classified	2	0.9%
Accommodation and Food Services	1	0.5%
Finance and Insurance	1	0.5%
Other Services	1	0.5%
Total	215	100%

29

Consumer Federation of America

State Allowing ROVs on Roads

26

Table 1. *Cont.*

	Description	Number of Claims	Percent of Total Claims
Injury Description	Fracture	58	27.0%
	Sprain	57	26.5%
	Contusion	49	22.8%
	Strain	15	7.0%
	Laceration	12	5.6%
	Multiple Injury Types	7	3.3%
	Concussion	6	2.8%
	Dislocation	5	2.3%
	Other	2	0.9%
	Crushing	2	0.9%
	Inflammation	1	0.5%
	No Physical Injury	1	0.5%
Body Part Injured	Trunk (including hip and pelvis)	85	39.5%
	Multiple Injuries	43	20.0%
	Head/Neck	34	14.9%
	Lower Extremity	30	14.0%
	Upper Extremity	24	11.2%
	No Physical Injury	1	0.5%

30

Primary ROV Risks and Hazards in Ag

31

Interventions

- Training
- Education
- PPE
- Engineering
- Laws

32

ASI Training for Common Hazards

33

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

34

ASI / ROHVA Training

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

35

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.

36

Education Products

37

38

Safety (**2015**)
Vol *1*
Pages, 84-93
doi:10.3390/safety101

39

Table 1. Questionnaire Responses

Question	Yes	No
Did you read the ATV Tip Sheet material?	62 (97%)	2 (3%)
Did any specific information on the tip sheet give you information that you did not already know?	10 (36%)	53 (64%)
Did the tip sheet information cause you to think about your and/or your workers' safety and how you perform the activities mentioned using ATVs?	47 (78%)	13 (22%)
Do you believe that you will change the way that you operate ATVs on your ranch in the future as a result of the information presented on the tip sheet?	11 (23%)	37 (77%)
Did you share the tip sheet with others?	25 (40%)	26 (51%)
In your opinion, is the Tip Sheet high quality safety and health information?	56 (93%)	4 (7%)

40

ATV Safety is Relevant to AG

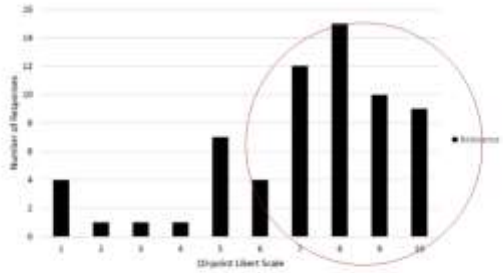


Figure 1. Responses to Tip Sheet Relevance. Please rate how relevant the tip sheet material was to your ranching activities, on a scale of 1–10. 1 representing "not relevant" and 10 representing "extremely relevant".

41

Capacity Building

- Certified Trainers
- 4.5 – 5 hours
- Hands – on training
- ATVs / UTVs
- Safe operation
- Field resources

42

Project - Women In Ag and ATVs

Jody and Virginia

43

ATV Project - Web 2.0

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

44

45

Engineering and Design

- CPSC
- Safety Standard 2014
- Progressive design changes

CONSUMER PRODUCT SAFETY COMMISSION

16 CFR Part 1422

RIN 3041-AC78

Docket No. CPSC-2009-0087

Safety Standard for Recreational Off-Highway Vehicles (ROVs)

AGENCY: Consumer Product Safety Commission.

ACTION: Notice of Proposed Rulemaking.

SUMMARY: The U.S. Consumer Product Safety Commission has determined preliminarily that there may be an unreasonable risk of injury and death associated with recreational off-highway vehicles (ROVs). To address these risks, the Commission proposes a rule that includes: (1) lateral stability and vehicle handling requirements that specify a minimum level of rollover resistance for ROVs and require that ROVs exhibit stable understeer characteristics; (2) occupant retention requirements that would limit the maximum speed of an ROV to no more than 15 miles per hour (mph), unless the seat belts of both the driver and front passenger, if any, are fastened, and would require ROVs to have a positive means, such as a button or structure, to limit further the ejection of a belted occupant in the event of a rollover; and (3) information requirements

46

Engineering and Design Changes

47

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.

Clay L, Hay-Smith EJ, Treharne G, Milosavljevic S. J. Agromed. 2014; 19(2): 209-210.

48

49

US State Rules / Laws

Not Much!

50

Trends

to

1:2

Side by Sides:

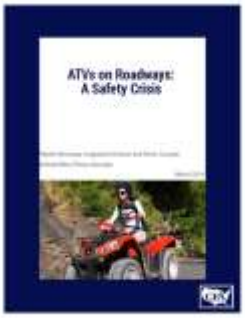
- Polaris' 2014 Ranger models will offer more safety features (survival space).
- One is an interlocking seatbelt system that limits the speed of the side-by-side to 24km/ if the seatbelt is not engaged.
- The other is a speed key that can limit the speed of the side-by-side to 40km/h.

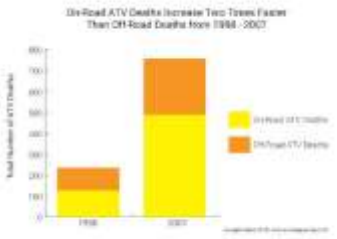
4:1

51

Major Trend of Great Concern

- Access to public roads increasing!





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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)

53

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)

54

Research

Rechnitzer et al., 2013

Crashworthiness

ATVs / UTVs tested

55

Australia and New Zealand Law

NATIONAL

Quad bike rules: WorkSafe back on the ROPS

PETER HINT, The Weekly Times
April 10, 2017 8:00am

WORKSAFE can force farmers who employ workers to fit operator 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.

2019

56

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

57

A review of the literature

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

58

59

Thank You

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Contact Information

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(C) 970-980-3368

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

Joann Jackson-Bass
Principal Safety Specialist

2

Emergency Responders

- First on the Scene!
- Unknown Circumstances
- Hazards?
  - Weapons
  - Fire
  - Chemicals
  - Radiological
  - People

3

Police, Fire, and Radiological

This presentation covers these 3 organizations.

- Police – Medical, crime, automobile, and the list 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.
  - The ones to assess a scene first
  - Highest hazard especially if gunfire is the potential
- Training becomes the focus for police officers
  - Police Academy
  - Then training once hired is comprehensive and 6 months long.
    - Reality Based
    - Virtual Reality
    - Includes defensive tactics -1000 hours
    - Weaponry – 80 hours
    - Emergency Vehicle Operations (EVO) – 40 hours training

5

Police Emergency Response

- Reoccurring training is ongoing
  - Reality Based
  - Virtual Reality
  - Preloaded Options are available for the officers so they can brush up on Scenarios and become more competent in those situations
- Training Facility
  - Is 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

6

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 is being more involved in the response with an experienced officer/training officer. Third phase the new officer is being shadowed by experienced officers/training officers.

7

Police Officer Protection

- Police officers are issued
  - Uniforms
  - Batons
  - Taser
  - Handcuffs
  - Pepper Spray
  - Radio Holster
  - Gas Masks
  - Riot Helmets

8

Police Officers Protection

- Police officers supply themselves
  - Gun
  - Flashlight
  - Tourniquet Holder
  - Gun Holsters
  - Personal Ice Chests

9

Within Police Cars

- Supplies and Equipment
  - Trauma Kit
  - Flares
  - Fire Extinguisher
  - Radio has an emergency button/open microphone
  - Tablets - Emergency/GPS
  - GPS
  - Car Radio.

10

Fire Response

- Mindset
  - Knowledge and Training
- Documentation in Place
- Inspections/Walkdowns
- Equipment
  - Personal Protective Equipment (PPE)
- Specialized Responses - HazMAT
- Safety Officer

11

Fire Response

- Training
  - Initial Training is comprehensive and hands on
  - Wildland Firefighting is 40 hours long
  - Annual Training Plan - 2-8 hours of training during the week/or month. Joint Training occurs with many different cities/jurisdiction
    - Armargosa Valley
    - Henderson
    - Las Vegas
    - Clark County
    - Pahrump
    - Nye Count

12

Fire Emergency Response

- Documentation
  - Organizational Plans -
    - Fire Hazard Analysis
    - Emergency Plans
    - Hazardous Materials plan/inventory

13

Fire Response

- Walk downs/Inspections
  - Walk down and performing fire inspections help the fire department to be familiar with facility's entry's, evacuation areas, and fire systems
  - Having the Blueprints and Evacuation Plans online and available is also helpful
- Equipment
  - Self-contained vehicles;
    - PPE
    - Fire fighting equipment
    - Drone capabilities
    - Access Aircraft, UAV's and/or Robots

14

Fire Response

- Specialized resources
  - Hazmat truck & trailer deployable out
    - HAZ MAT SUIT/SCBA/Response Guides
- Safety Officer
  - Senior Engineers and Captains are trained to be a Safety Officer
  - During a response that is their job

15

Radiological Emergency Response

- Incidents Occurs
- Call out
- Planning
- Loading the equipment
- Transportation
- Set up

16

Radiological Response Framework

- Documentation
  - H&S plan
- Personnel
  - Education
  - Training
- Equipment
- Established perimeters - ALARA
- Personnel Protective Equipment (PPE)

17

Radiological Emergency Response & Situational Awareness

- Hazard Analysis
  - Review the location in regards to weather, terrain, obstacles, etc
  - Point of Contact (POC) responsible for briefing hazards when arrived
  - Risk Assessment
- Analyze and Mitigate
- Home Team and a Field Team

18

Radiological Response

Lessons Learned

- Preplanning is essential
  - Equipment crated up and ready to go
  - Added a tactical kit in the equipment to go
  - In certain circumstances a Kevlar vest may be required
- Pre and Post job briefings integral to a safe response
- Banners identifying the Radiological personnel

19

Radiological, Fire, and Police

- Technological and Upcoming Technologies
  - Instrumentation
    - Detectors
    - Industrial Hygiene equipment
  - Robotics
    - Metro's ARMOR
  - Small Unmanned Aerial Systems (sUAS)
  - Aircraft

20

Emergency Responders and Safety Summary

- Preparation
  - Pre-Planning
  - Procedures
  - Training/Exercises
- Actual Response
  - Equipment
  - Trained personnel
  - PPE
  - Documentation
  - Upcoming Technology

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

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 Engles (1884) is depicted by this example of textile workers:

- 'Men wear out at 40 years of age; almost none continue to 50'
- ..'towards the 40th 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 spitting, 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 results 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 1887 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

- 1800-1911. **Social Legislation era**. 1st Occupational Safety, Health, Welfare & Workman's Compensation laws passed & enforced by the Government.
- 1911-1959. **Inspection era**. Targeted guarding, housekeeping & physical conditions.
- 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

13

14

LORD ROBENS REPORT, 1972.

- 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 them to perform their work in such a manner that they are not exposed to hazards [OSH Act WA 1981, s19(b)].
- 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.

15

2019 SURVEY REPLY

"As for my call centre experiences regarding health and safety education all I can say is that the safety person always comes 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 also) 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 contract 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."

16

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?*

17

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.

18

SAFETY & HEALTH REPRESENTATIVES EDUCATION

- The Australian Government ratified the ILO Convention 155 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.

19

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 qualification 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 message to suit a range of audiences including the ability to negotiate effectively and convey information and structures via written and oral communication.

20

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.

21

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.

22

EMPLOYEE SAFETY EDUCATION AT THE BELL TELEPHONE COMPANY IN 1930.

https://www.youtube.com/watch?v=QA8whMDnHUI

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

23

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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=QitKWqqIdsY

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27

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.

28

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.

29

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 BSBWHS201A.

https://training.gov.au/Training/Details/BSBWHS201

- Over seventy printable occupational safety and health lesson plans and worksheets providing 100+ hours of activities for educators.

30

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 $(A) 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 $(A) 250.000.

31

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+on+Australian+farms&client=firefox-b&tbm=isch&tbo=u&source=univ&sa=X&ved=0ahUKEwjMt-TH_rTAhUDN48KHdUGB85YQ7AdIPw&biw=1344&bih=707

32

33

LACK OF EDUCATION

- ***Need to ensure understanding!***

34

- 1984 Bhopal Pesticide Plant Disaster in India.

35

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*

36

HIERARCHY OF RISK CONTROL

37

IF PEOPLE ARE EDUCATED AND TRAINED ON HOW TO WORK SAFELY WHAT SHOULD BE THE OUTCOMES?

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 cms. 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 $(A)11,000.

39

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 Perttula, a Jumbo machine offsider, was working in a hot, humid underground gold mine in Western Australia when he collapsed due to heat stress and died. Report No. 232 provided the following recommended preventative actions.

40

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.

42

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.

43

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?*

44

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

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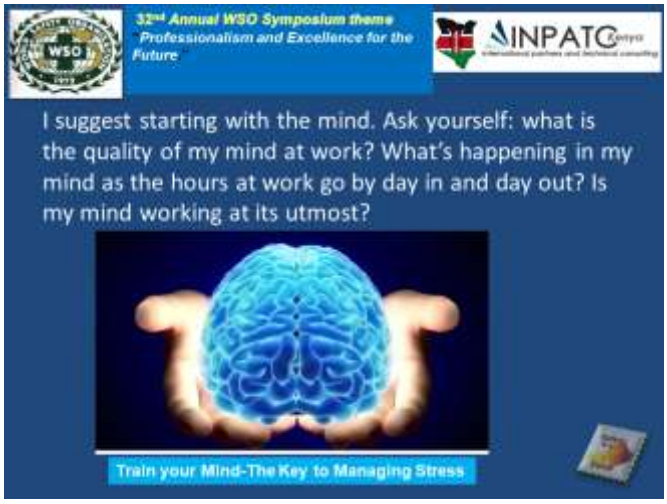

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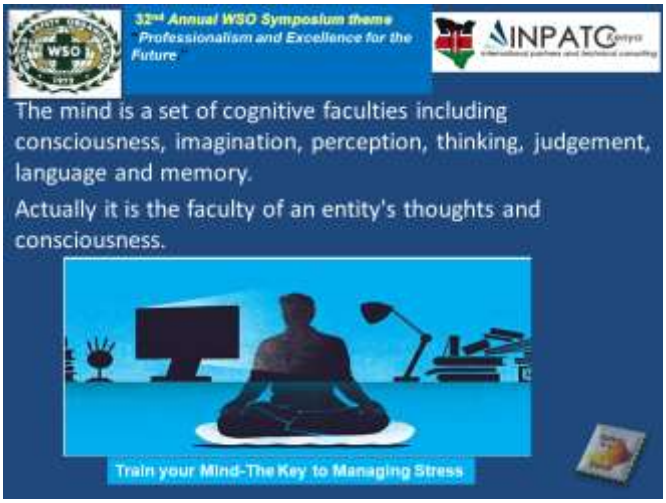

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32nd Annual WSO Symposium theme "Professionalism and Excellence for the Future"

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

8

32nd Annual WSO Symposium theme "Professionalism and Excellence for the Future"

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

9

32nd Annual WSO Symposium theme "Professionalism and Excellence for the Future"

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

10

32nd Annual WSO Symposium theme "Professionalism and Excellence for the Future"

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

11

32nd Annual WSO Symposium theme "Professionalism and Excellence for the Future"

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 a stressor, for example, it may not alleviate your stress if you share your works woes with one of them.

Train your Mind-The Key to Managing Stress

12

32nd Annual WSO Symposium theme "Professionalism and Excellence for the Future"

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

13

32nd Annual WSO Symposium theme "Professionalism and Excellence for the Future"

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

14

32nd Annual WSO Symposium theme "Professionalism and Excellence for the Future"

Summary

Keep an open mind

- Meditate
- Exercise
- Social support
- Take a break from the stressor
- Smile and laugh

Train your Mind-The Key to Managing Stress

15

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

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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 from 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.

Metra

6

reclaim 13

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, play, 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

7

Metra's Partnership with reclaim 13

Metra

8

reclaim 13 Awareness Messaging

Metra

9

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

Metra

10

Metra

Thank You

Hilary E. Konczal
Chief Safety & Environmental Officer
METRA
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(C) 312-446-0634

How to Deal with Work Fatality

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

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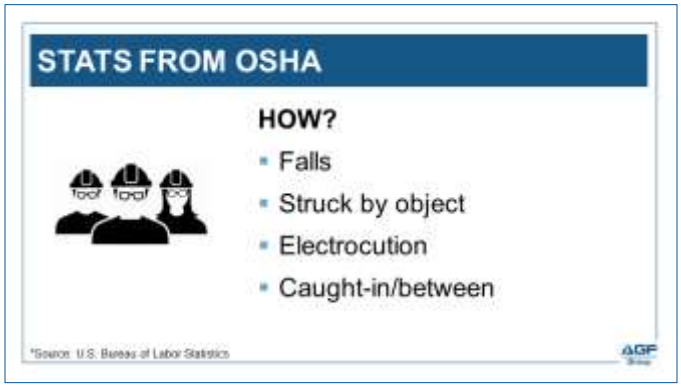

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THE FIRST MINUTES

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

11

IMPACT…

- Co-workers
- Site
- The company
- Family

12

YOUR PROCESS

THE COMPANY
Emergency plan
Investigation process
OSHA-Police
Family & communication
Identification
Corrective action
Training
Council-internal worker
Return to work

EXTERNAL CUSTOMER
Communication
Council
Corrective action
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

13

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
- First aiders & kits, in case of emergency numbers
- Incident report
- Investigation form
- Emergencies for all situation

14

IMPLEMENTATION AND FOLLOW UP

- Training
- Communication
- E-mail
- Safety orientation
- Awareness

15

16

YOUR SAFETY PROGRAM

- To have a process in place
- To prevent accident
- To deal with accidents if they happen, in cooperation with all levels
- To position your company

It's a book, it's a process, it's a way of working
On the shelf or … It's a way of life!

17

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

1

Current Practice, Attitude, and Perception Towards Road Safety Behaviour among The Drivers in Jakarta, Indonesia

Cynthia Febrina Maharani

2

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

3

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 (Nantulya & Sleet, 2003)
- Most of the victims of road accidents in Indonesia are motorbike users (Soehodho, 2009)

4

Aims or Objectives

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

5

Introduction-Theories of Accident Causation

- Domino Theory that was introduced by Heinrich in 1929 (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 (Bekibele et al., 2007).

6

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 (Arezez and Miguel, 2008)

7

Introduction-Safety Triad Theory

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

8

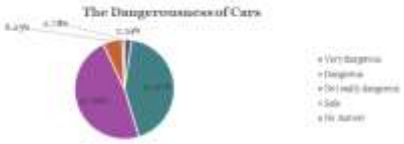
Method

- 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

9

Results

- Questionnaire Finding



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Questionnaire Finding

- Based on the three graphics above, people think that the most dangerous transportation mode is motorbike with the percentage 37,85% while 2,34% people think that car is very dangerous and 32,03% people think that bus is very dangerous.

12

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)

13

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).

14

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)

15

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).

16

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 interviews 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).

17

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

- The researcher also ask 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)

18

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)

19

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)

20

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.

21

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

22

Limitations

- Study participants
- Triangulations

Selecting and Managing Your Security Consultants

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

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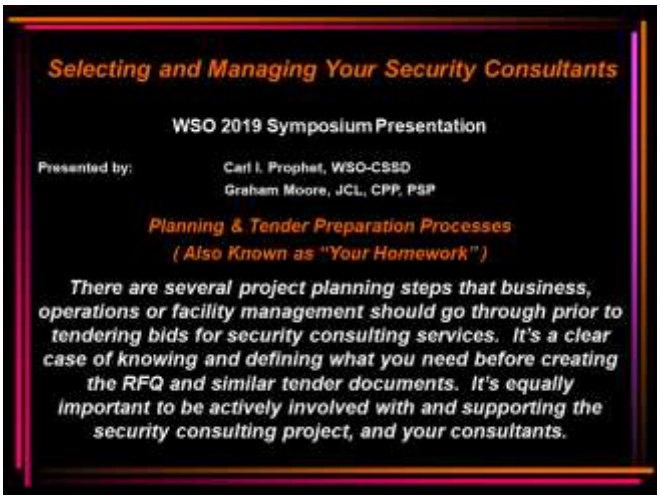

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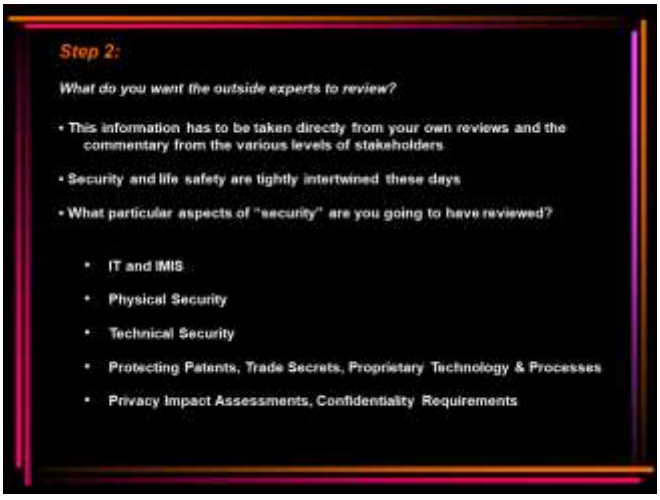

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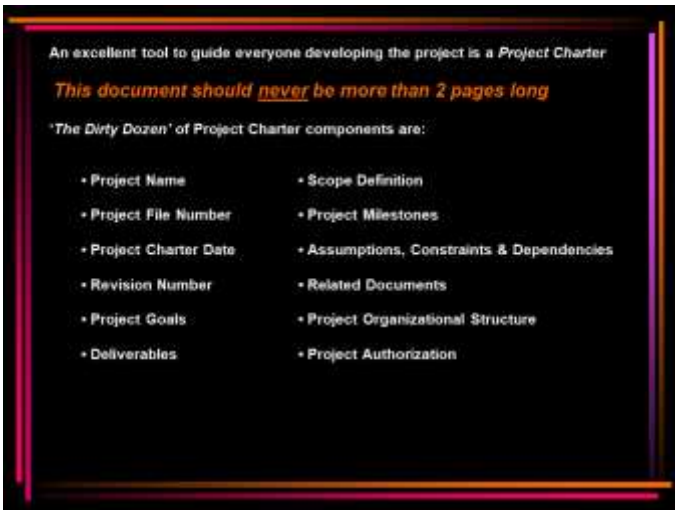

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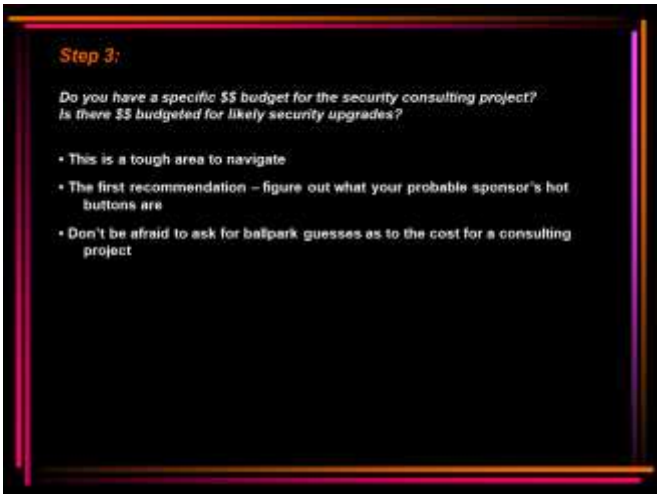

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Step 5:

Who will create the RFQ 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 RFQ, find someone that has
- The scope must be imbedded in virtual concrete
- You must have a desired outcome expressed in your RFQ
- Vendor qualifications and experience as they relate to your specific needs are vitally important

8

Step 6:

Research before you tender the RFQ 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 RFQ
- 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

9

Reviewing Tendered Proposals

Step 1:

Evaluate bidder qualifications, credentials, related experience, licencing and insurance

- Review available qualifications and credentials through security related professional organizations and societies
- Check licences for all relevant levels of government
- Current General Liability and Errors & Omissions insurance policies must be requested and verified
- The security consultancies' Worker's Compensation premium payments must be current
- Hiring a large consulting firm does not guarantee a better finished product
- Ask for and check references

10

Step 2:

Check that each item in the RFQ is accounted for in the quotation document

- If your organization has staff with specific experience in managing the RFQ and bidding process, use them
- Select your bid evaluation team from the groups or business units that will be most impacted by findings of the consulting project
- Don't be the sole arbiter for scoring bid submissions if the value of the contract is over a simple single bidder award threshold

Step 3:

Generate a Purchase Order so funding for the project is set aside in a specific budget interval

Step 4:

Provide appropriate signatures and a contract to the successful bidder

- Nothing should be allowed to begin until both parties have their copies of the signed contract in hand

11

Project Startup

Step 1:

Provide a workplace safety orientation to the entire security consulting team

- Orient 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

12

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"

13

Project Completion Report Reviews

Step 1:

Promptly review the submitted draft reports against the project deliverables

- Don't shoot the messenger (or 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 consultant's 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

14

Project Close Processes & Procedures

Step 1:

When the final reports are submitted to your satisfaction, recover identification, access cards, keysets 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

15

Does Modern Ammunition Really Present a Hazard to First Responders in Accidents and Fire?

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

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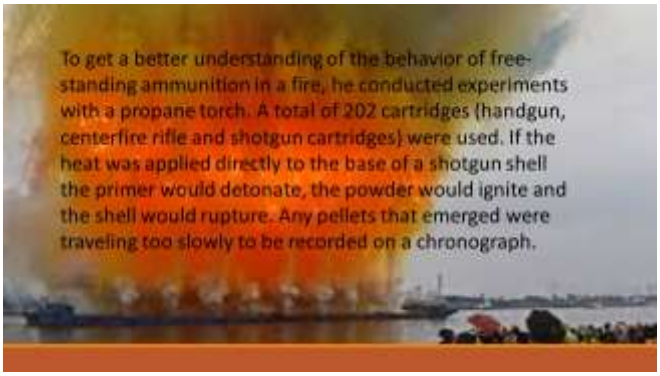

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Grooming the Future Workforce: A Case Study of the Train Them Young Initiative (#2TYI)

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

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Child Safety Story Books

4

School Safety Poster Packs

5

School Safety Summit

6

Pilot Project: Use of child safety story books in Abuja Schools

- **Location:** Abuja
- **Number of schools:** 11 schools
- **School Category:** Public, Private and a Special Needs School
-

7

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

8

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

9

We need YOU

10

THANK YOU!

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

Kayla Rath
Motivational Safety Speaker, Safety Difference; Texas, USA

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Safety Climate Perception of Workers

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

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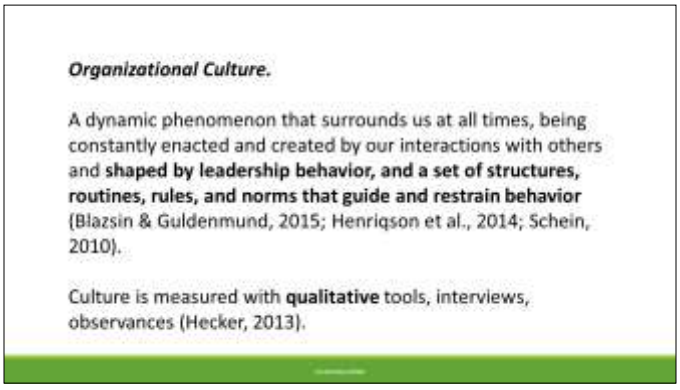

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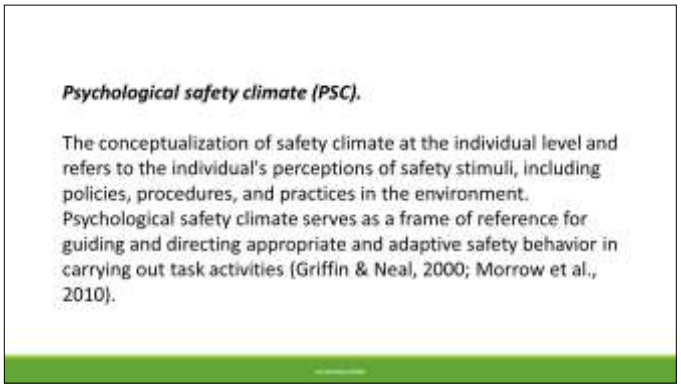

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Safety climate.

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).

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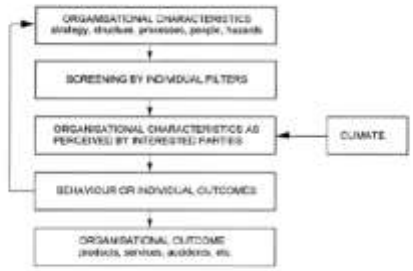

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Over the past **35 years**, several foundational theories have merged and evolved into the current safety climate theory, which is **collaborative of many organizational theories and themes** (Fogarty & Shaw, 2010).

8

9

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, & Passetti, 2015; Lebeau, Duguay, & Boucher, 2014; Shea et al., 2016; U. S. Bureau of Labor Statistics, 2015).

10

- **Agricultural injuries are typically severe in nature, consisting of significant soft-tissue injuries, neurovascular damage, multiple fractures, and amputations** (Yaffe & Kaplan, 2014).
- **Disabling injuries affect over 150,000 US agricultural workers** annually (Smith, 2011).
- Your **organization's safety culture becomes more complicated as corporations routinely hire outside contractors to support its internal operations** (Mearns & Yule, 2009; Schwatka, Hecker, & Goldenhar, 2016).

11

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 (Guldenmund, 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, Donohue, Shea, Cooper, & Cieri, 2016; Zohar, 1980).

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13

The **NOSACQ-50 safety assessment instrument** has been a **generic industry and multi-language tool** of choice to determine safety climate where cultures and languages vary within a workforce (Gao et al., 2015; Kines et al., 2011). This questionnaire is a generic, non-industry specific questionnaire, or tool; both validated and tested for reliability in measuring safety climate (Kines et al., 2011).

In early 2016, the NOSACQ-50 instrument had been **successfully used in over 100 international studies** and available in **over 30 languages** with an available benchmark database for comparison (Bergh et al., 2013; P. Kines, personal communication, March 19, 2016).

The **averaged means of each group**'s results will appear on a supplemental radar plot diagram to illustrate the safety perceptions of the company's management, supervisors, and field workers (Colley & Neal, 2012; Fugas et al., 2012; Hofmann, et al., 1995; Hofmann & Morgeson, 1999; Tholén et al., 2013).

Using **quantitative measurement**, such as the NOSACQ-50 tool, is the best method to define what, if any, perceptional differences exist in safety climate among the three levels of workers (Abrell-Vogel & Rowold, 2014; Tholén et al., 2013; Zhou et al., 2015).

14

NOSACQ-50 questionnaire consists of **50 items across 7 safety climate dimensions**, determining the group members' shared **perceptions** of:

1. **Management safety priority, commitment, and competence,**
2. **Management safety empowerment,**
3. **Management safety justice,**
4. **Workers' safety commitment,**
5. **Workers' safety priority and risk non-acceptance,**
6. **Safety communication, learning, and trust in co-workers safety competence, and**
7. **Trust in the efficacy of safety systems.**

NOSACQ-50 can be used in full or be tailored for specific studies using individual dimensions.

15

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).

16

2. Management safety empowerment.

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).

17

3. Management safety justice.

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).

18

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).

19

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).

20

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).

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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).

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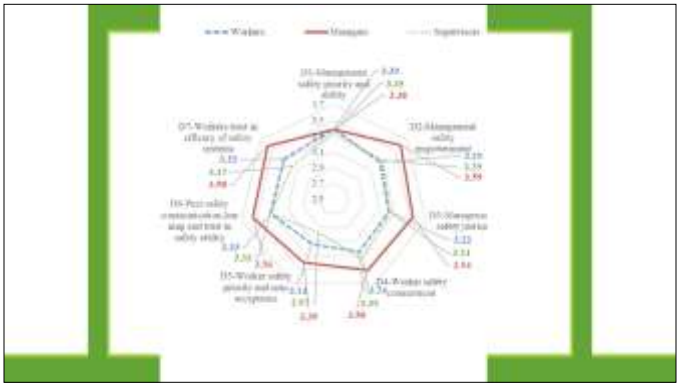

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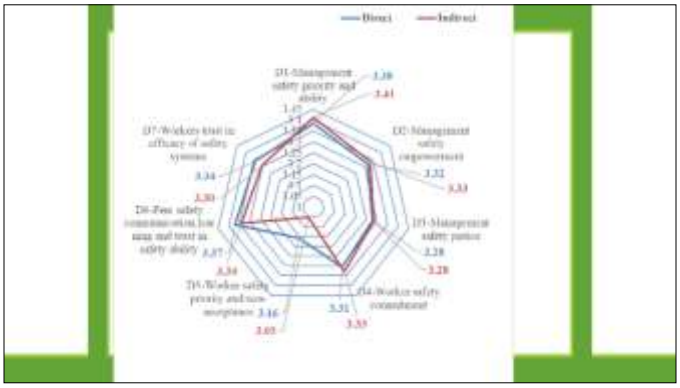

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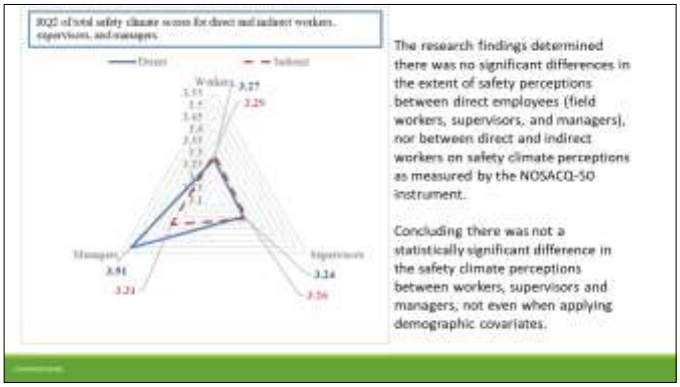

25

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, tobacco use, how they spend the majority of their working day, and type of employee (full-time, part-time, seasonal), direct or indirect employee (works away from home or at corporate office), and worker, supervisor or manager position.

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

26

Demographic variables were collected in the instrument to determine if they have any effect upon safety perceptions.

Demographic factors have the possibility of influencing safety climate in some environments. Individual's behaviors affected safety in the workplace in some industries (Hinze, 1997; Hinze et al., 2013).

In other safety climate research personal characteristics or **demographic factors such as age, gender, marital status, educational level, working experience in a particular industry can affect one's safety** (Masood & Choudhry, 2012).

Their research found **older married workers with a family to support show more positive toward safety**, more than their younger single co-workers, who are without dependents.

Direct-hired employees had a more positive safety climate perception than subcontractors.

Workers with less than a primary education had a lower safety perception (Choudhry et al., 2009).

Younger workers were a higher risk for workplace injuries than their older counterparts, when controlling variables of worker tradesmanship and company size (Kjestveit et al., 2011).

27

Added Demographic questions

1. Age
2. Gender
3. Marital Status
4. Number of Family Members supported in household
5. Education
6. Your employer (out of list of subcontractors or clients)
7. Primary language
8. Country of Origin
9. Number of months or years with this employer
10. Experience in this industry.
11. Directly Supervised or Lone-Worker
12. Full-time, Part-time, or Season Employee
13. Work at Home or Work on the Road
14. Are you a Worker, Supervisor or Manager/Owner.

28

The use of the NOSACQ-50 instrument has now reached over **58,800 employees worldwide** and has been benchmarked into a resource library for other researchers to compare their findings to many worldwide industrial sectors (P. Kines, personal communication, September 19, 2017).

29

When all members of the organization are **thinking and feeling similarly** across all seven safety climate dimensions the culture of that corporation, plus become an illustration of **leader-member exchange or manager-employee exchange** (Petitta et al., 2017; Rafidah et al., 2014).

30

Practical Implications in defining your Safety Climate

Research has a direct and immediate use for the corporation implementing and identifying their safety climate.

The lower safety climate scores can be reviewed and the company can implement or supplemental their training programs. Further analysis provides information which can used to improve corporation safety. Preventing future incidents.

31

Future Use of Safety Climate Tools…

The NOSACQ-50 instrument has continued to successful measure the current safety climate conditions, including this sample and any samples you collect within your companies.

The questionnaire should be used again within your company (or on incoming contractors), after implementation of a new safety training programs in which you plan on using to enhance those areas reported as 'lower averaged mean scores' of the groups, or as turnover continues within the organization to aid in determining the safety climate of a transient workplace.

32

Illustrations of NOSACQ-50 Findings by supplied EXCEL template provided with instrument.

http://nfa.dk/da/Vaerktoejer/Sporgeskemaer/Safety-Climate-Questionnaire-NOSACQ50/NOSACQ50-translations

Available in 35 languages.

33

Recommendations for future research.

Recommendation for future research #1. It is recommended research continue by examining organizations who have both direct and indirect workers within the oil-and-gas industry and other agricultural and construction fields to ensure there is a strong safety climate within the home headquarters and within the field managed operations.

Recommendation for future research #2. It is recommended research continue by examining organizations, such as unions, who provide workers across the nation to this industry specifically, and to other states of oil-and-gas projects. (This research found no significant differences between the union and non-union employees.)

34

References

In my research there are over 330 peer reviewed literature referenced; 183 were from the past 5 years.

Thank you for use of the photographs H2/Arnold Seeding Corporation.

35

If you have any questions please contact:

Lourrinda Renee
lourrinda@lourrinda.com
405-517-2066

36

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).

37

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, & Meliá, 2012), which emerged as one of the most influential concepts for the **studying a person's own attributes, behavior, and intentions** (Ajzen, 1985, 1991, 2012, 2014).

38

Perceived **behavioral control theory**, produces favorable or unfavorable attitudes by **forming normative beliefs 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; Henriqson, 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).

39

Psychological climate identifies with the employee's workplace by taking measurements of trust, cohesion, pressure, innovation, and fairness (Koys & DeCotiis, 1991; Gillen, Baltz, Gassel, Kirsch, & Vaccaro, 2002). Psychological health and safety climate, psychosocial safety climate (PSC), is an antecedent to Edmonson's psychological safety construct (Dollard & Bakker, 2010; Nielsen, Hystad, & Eid, 2016).

The **psychological safety climate** is a safety behavior defined by the worker's safety perceptions, according to their organization's policies, procedures, and practices (Cox & Cheyne, 2000; Hall, et al., 2010; Yulita & Dollard, 2014). Through this evolution of theories defining safety climate, the current empirical research definition is 'a snapshot of the employee's perceptions about safety' (Flin, Mearns, O'Connor, & Bryden, 2000; Martínez-Córcoles, Gracia, Tomás, & Peiró, 2011). Several researchers have created and revised their own **safety climate questionnaires** merging elements of these foundational theories into generic or industry specific research tools (Choudhry, Fang, & Mohamed, 2007; Martínez-Córcoles, Schöbel, Gracia, Tomás, & Peiró, 2012; Zohar, 2014).

40

Research shows **organizations still need to identify, compare, and share the safety climate perceptions of their workers**, including front-line workers and their direct supervisors (Colley & Neal, 2012; Dollard & Bakker, 2010; Huang et al., 2014; Graywacz et al., 2008).

These documented perceptions can create a framework of reference and guidance for incorporating or adapting appropriate workplace behaviors, enabling organizations to understand and improve safety behaviors (Hofmann, Jacobs, & Landy, 1995; Huang, Lee, McFadden, Rineer, & Robertson, 2017b). These reports may provide employers with identified safety dimensions of how workers interpret, evaluate, or judge actions (Kines et al., 2010; Huang et al., 2014).

41

Understanding these perceptions will record how management values safety within the organization and identifying any inconsistencies across organizational hierarchies (Huang et al., 2012; Masood et al., 2014; Zohar, 2010). With continued and significant increases in injuries and fatalities within the agricultural industry there is an imminent need for agricultural industry safety climate research (Missikpode et al., 2015).

Finding this current level of risk and then devising an intervention plan to fill the gaps in high risk industries to determine safety dimension areas which can possibly lower industry incident rates, injuries, and fatalities (Zohar, 1980, 2010; Zohar & Luria, 2004, 2005, 2010; Zohar & Polachek, 2014) and predict unsafe behaviors (Fogarty & Shaw, 2010).

42

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 (Morrow, Koves, & Barnes, 2014). A few elements of a **strong safety climate include industries who have a strong manager's commitment toward safety, leadership, employee involvement, and well-defined safety management systems** (Abdullah, Othman, Osman, & Salahudin, 2016; Boughaba, Haissane, & Roukia, 2014; Fruhen, Mearns, Flin, & Kirwan, 2014; Mearns, Hope, Ford, & Tetrick, 2010).

There is additional evidence that employees who have received safety training courses are more committed and report a higher safety perception of their company (Abdullah et al., 2016; Demirkesen & Arditi, 2015; Ghahramani, 2016). For the best measurement of safety climate within an organization a **multi-level survey** should be taken from **each organizational level, including management, supervisors, and workers** (Avanzi, Savadori, & Fraccaroli, 2016; Tholén, Pousette, & Törner, 2013; Zohar & Polachek, 2014).

43

Leading indicators is a metric that attempts to measure some variable believed to be an indicator or precursor of future safety performance (Flin et al., 2000; Gao, Chen, Utarni, & Zahoor, 2015; Reiman & Pietikäinen, 2012). Safety climate measures are **leading indicators of internal occupational safety and health performance** (Shea et al., 2016) and **provide organizations early warning signs of potential failure, detecting risk and incidents**, before they even occur (Wallhein, Antonsen, & Haugen, 2016; Sinelnikov, Inouye, & Kerper, 2015). Examining the climate can provide an opportunity to take positive steps in their safety environment to mitigate, lessen the severity, or prevent incidents from occurring (Lingard, Cooke, & Blismas, 2009, 2010, & 2012). When both top leaders and employees participate in the safety climate research for an organization, the result can determine if there is overall management support for the organization's safety processes. However, **without each level of the organization participating a true safety climate score is not attained** (Abdullah et al., 2016).

There is a need for oil-and-gas restoration safety climate research. Historically, both the oil-and-gas and agricultural industries are known for their underdeveloped, weak, or non-existent safety culture (Choudhry et al., 2007; Guldenmund, 2007, 2008). These industries all exhibit high incident, injury and fatality rates, requiring an imminent need to determine their safety climate scores (Armenakis, Brown, & Mehta, 2011; Battaglia et al., 2015; Sinelnikov et al., 2015; Sheepers & Mbohwa, 2015). **Safety climate scores are found to be important to not only the organization's occupational health, but also the public's health** (Missikpode et al., 2015).

44

Empirical research has recognized a **lack of research in organizational hierarchy**, where research typically does not survey all levels of the organizations, not covering groups recognized as the worker, supervisor, and manager, nor those who represent indirect and direct employees (Colley & Neal, 2012; Huang et al., 2016, 2017b; Huang, Jeffries, Tolbert, & Dainoff, 2017a). This gap in research has identified a **need to study owners, manager, and worker's current commitment to safety to identify group-level safety perceptions.** the organization's safety climate (Fang & Wu, 2013; Fruhen et al., 2014; Lingard et al., 2012; Schwatka et al., 2016; Tholén et al., 2013).

Researchers find many safety climate studies fail to measure the group's safety perceptions of workers, who operate in the lower levels of the organizational hierarchy (Abdullah et al., 2016; Niu, Leicht, & Rowlinson, 2016a, 2016b; Wu, Wang, Zou, & Fang, 2016). Others have **not studied safety climates of organizations that are considered small** (Kines, Andersen, Andersen, Nielsen, & Pedersen, 2013; Osnes, Karlsen, Kines, Andersen, & Nielsen, 2015; Shea et al., 2016). Many have **missed capturing the safety perceptions of the multiple stakeholders within the ranks of the organizations, skipping over determining the perceptions of the lower hierarchy level workers** (Niu, et al., 2016a).

45

It is the individuals, who work on agricultural tasks, who lead in the highest injury and fatality rates nationwide (Casey et al., 2015; Cigularov et al., 2013; Misiukpode 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., 2015). Safety climate is a leading indicator of workers safety perceptions and attitudes toward safety management systems. Where some studies have focused upon lagging indicators, or post-accident investigations, to identify what safety culture problem existed at the time of a critical incident, others are looking at leading indicators for answers to the problem (Barbaranelli, Petitta, & Probst, 2015; Beus et al., 2016; Masood et al., 2014). Learning from incidents, reflecting upon them, and putting lessons learned into preventing future incidents has failed significantly in lowering incident rates (Drupsteen & Guldenmund, 2014). Would you want to prevent an accident (safety climate leading indicator studies) or merely want to investigate one after its occurrence (safety lagging indicator reporting)? This is why identifying an organization's current safety climate is so important (Reiman & Pietikäinen, 2012; Shea et al., 2016; Sinelnikov et al., 2015).

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Practical contributions will consist of gathering different levels of employee's safety perceptions of oil-and-gas restoration workers and within the restoration company in recognizing any differences within each of the seven safety dimensions as defined by the NOSACQ-50 instrument. 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 for this group of oil-and-gas pipeline restoration workers and prevent future incidents (Antonsen, 2009; Antonsen, Skarholt, & Ringstad, 2012; Rashid et al., 2014). Once the gaps within the organization are defined, implementation to fill those gaps, can make the organization stronger, lowering incident rates, while increasing morale (Byler, 2013; Colley et al., 2013; Oxenikasen & Antini, 2015; Gao, et al., 2015).

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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, not when measuring safety climate (Guldenmund, 2000; Nielsen, 2014; Yorio, Willmer, & Moore, 2015). Using quantitative methods, specifically questionnaires are an adequate, reliable, and valid method in determining current workplace safety climate (Kines et al., 2013; Pedersen & Kines, 2011; Zohar, 2014). With minimal effort, a survey can collect data from a group during a short period, while allowing for statistical comparisons between different variables (Lingard et al., 2012; O'Connor et al., 2011a). The downside to this quantitative collection in this research is if there might be an insufficient number of participants to measure, if the company is not in peak operation. Likert scales are ordinal, not interval, invalidating parametric multivariate statistical methods. Safety climate research can be confusing for the respondent on distinguishing their perceptions from their attitudes. Outside conditions influence organizations (national culture, socio-economic conditions), which are difficult to measure or clarify using only a questionnaire, however a questionnaire is the method to measure safety climate (Antonsen et al., 2012; Barbaranelli et al., 2015; O'Connor et al., 2011a; Rashid et al., 2014).

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Other safety climate instruments are promising tools, for example, the more recent Organizational Performance Metric-Monash University is a reliable and validated study, yet it does not have extensive research or multiple industry application as found in the NOSACQ-50 tool (Shea et al., 2016). Safety climate assessment scale (Abdullah et al., 2016), safety climate scale (Bahari & Clarke, 2013), safety climate (Clarke, 2006b) to name a few of the dozen or more questionnaires in print (Shea et al., 2016). Many of the quantitative methods were measured on a Likert type scale that would be averaged into a single dimension or total safety climate score (Shea et al., 2016). Several other research instruments, have not been determined valid or may not be reliable to measure all industries or tasks, nor based upon theory or empirical data (Bergh, 2011; Grzywacz et al., 2008; Guldenmund, 2000). Many research instruments do not have a benchmarking library or databank in which current research can be compared, nor have an extensive empirical research history, which exists with the NOSACQ instrument. A library or databank is a necessary tool to expand current safety climate theory (Shea et al., 2016; Sinelnikov et al., 2015).

Safety through the Generations

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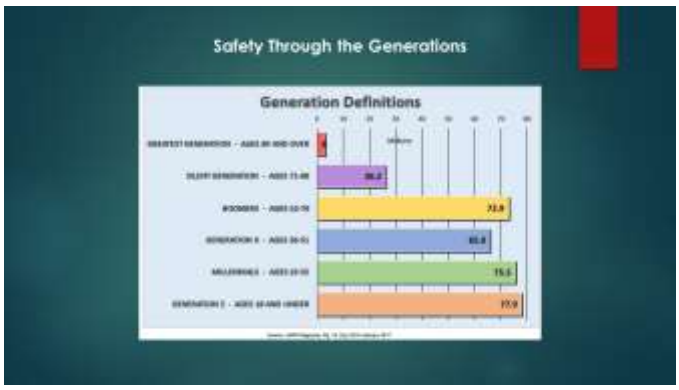

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Safety Through the Generations

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 (2013)

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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, 2013)

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Safety Through the Generations

In the United States, an estimated **149 million work days are lost every year because of 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 (World Health Organization, 2013)

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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 overload. (OregonOSHA, 2011)

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Safety Through the Generations

The U.S. Department of Labor defines a musculoskeletal disorder (MSD) as an injury or disorder of the muscles, nerves, tendons, joints, cartilage, or spinal discs. MSDs do not include disorders caused by slips, trips, falls, motor vehicle accidents, or similar accidents (U.S. Department of Labor, 1998)

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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 case can be very costly.

Estimates indicate that the indirect costs associated with MSDs may be four to 10 times higher than the direct costs (Oregon OSHA, 2011)

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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
- Carpenters

Source: U.S. Department of Labor, Bureau of Labor Statistics, News Release: "Lost-worktime Injuries and Illnesses: Characteristics and Resulting Time Away from Work, 1998," April 20, 2000 (Online at www.bls.gov)

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Safety Through the Generations

Cal/OSHA states: Manual material handling (MMH) work contributes to a large percentage of the **over half a 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 Industrial Relations, Cal/OSHA Consultation & Research, 2007)

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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)

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Safety Through the Generations

"VIOLINISTS HAVE TWICE AS MUCH RISK OF DEVELOPING PAIN IN THE NECK, RIGHT SHOULDER AND LEFT FOREARM, WHEN COMPARED WITH PIANISTS. VIOLISTS AND VIOLINISTS HAVE A HIGHER INCIDENCE OF PAIN IN THE NECK, SHOULDER, ELBOW AND FOREARM THAN PIANISTS" (HAGBERG M, THIRINGER G, BRANDSTROM L, 2005)

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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 CHIN AND SHOULDER RESTS ARE HELPFUL IN THE TREATMENT OF VARIOUS ABNORMALITIES.

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

(Oregon OSHA, 2001)

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Safety Through the Generations

- LISTEN TO EMPLOYEES
- BE POSITIVE AND PROACTIVE
- PROVIDE QUALITY ERGONOMIC SAFETY TRAINING
- OBSERVE EMPLOYEES (ERGO EVALUATION)
- CORRECT UNSAFE ACTS (ERGO IMPROVEMENTS)
- RECOGNIZE SAFE BEHAVIORS
- LEAD BY EXAMPLE

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Safety Through the Generations

- Match the job task to the worker (Dept. of Industrial Relations Cal/OSHA, 2005)
- 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 appreciation for their work (Cal/OSHA, 2005)

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Safety Through the Generations

4

Stretch & Flex Program

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

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Safety Through the Generations

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Safety Through the Generations

5

Questions & Answers

Safety in American Schools: A Student's Point of View

Kristiana C. Varkalhoff
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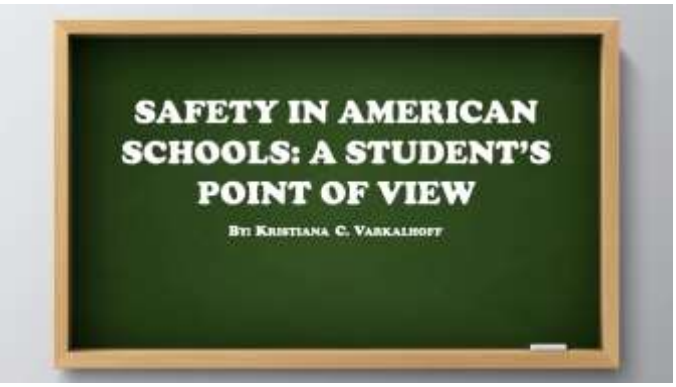

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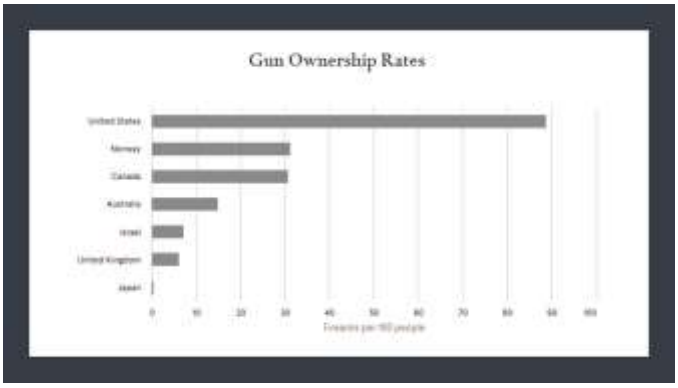

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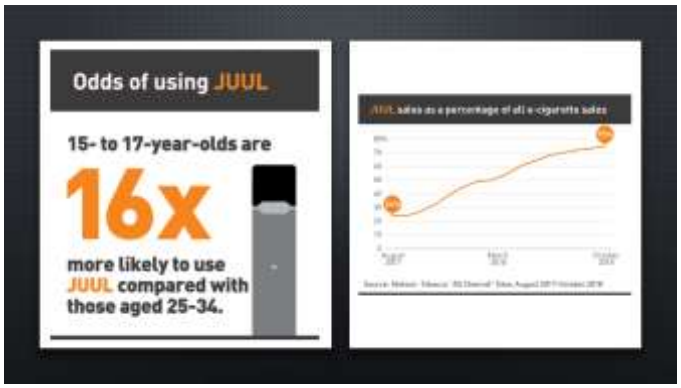

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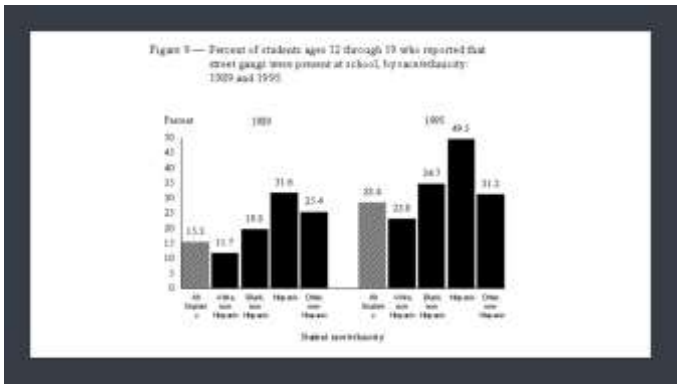

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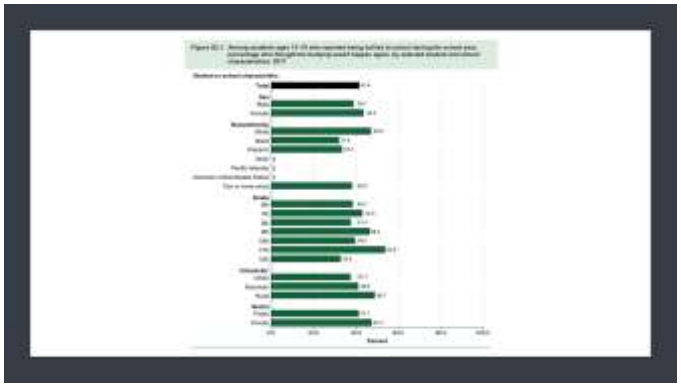

Resolving Contemporary HSE Issues in the Middle East

Abdul Rafiu Zakari
QHSE Manager, Bothar Boring & Tunneling; Doha, Qatar

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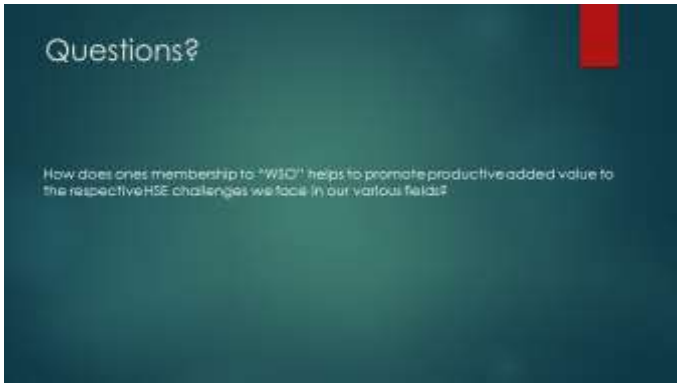

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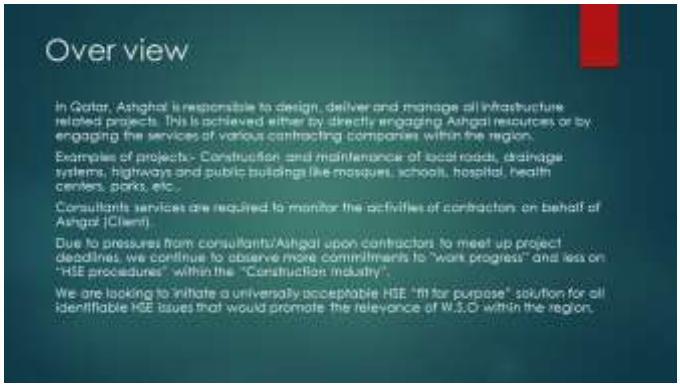

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