

THE INSTITUTE OF
**ROAD TRANSPORT
ENGINEERS OF N.Z.**

Conference 2002

Safety Pays

***Developing a Safety
and
Quality
Company Culture***

WHO'S RESPONSIBLE



MANAGEMENT:

- ★ Providing Safety Equipment
- ★ Implementing Systems and Procedures
- ★ Ensuring Training

EVERYBODY:

- ★ Use Proper Equipment
- ★ Follow Procedures
- ★ Provide Feedback

SESSION OBJECTIVE

A photograph of a large, white, multi-axle truck in a desert environment. The truck is completely covered with people and large bundles of goods, including bags and boxes, extending far beyond its roof and sides. Several people are standing on the ground around the truck, some appearing to be loading or unloading. The background shows a clear blue sky and a flat, arid landscape. The overall scene suggests a high-risk transportation situation, likely related to the session objective of accident risk management.

To provide a brief overview of the “Company Accident Risk Management Survey” and its’ role in developing a safety and quality culture

The Cause

Accidents/Mishaps can occur when there is:

- **A Breakdown in Systems**
 - **Faulty or Inadequate Equipment**
 - **HUMAN ERROR**
- **Research Indicates between 91% - 96% of Accidents are directly caused by Human Error**
- Saved Costs + Increased Revenue
= \$ Profits**

HUMAN ERROR ACCIDENTS



Unsafe Behaviour



Poor Maintenance



Not Following Procedures



Cutting Corners



Short Cuts



23 May 2001



29 March 2002



29 March 2002



Understanding Ourselves

Two Major Causes Within the **Human Error** area:

- ✓ Those that result from inadequate training; and
- ✓ Those that result from beliefs and attitudes

**NO ONE HAS AN
ACCIDENT ON
PURPOSE!!!**

A group of people, including a man in a cowboy hat, looking at a smartphone together. The background is a blurred outdoor setting with buildings and trees.

HUMAN ERROR accidents happen

- **DESPITE Management's commitment to spending on Skill and Knowledge Training**
- ***HUMAN ERROR* Accidents Mostly Caused by poor Safety Awareness (Attitudinal Factors)**

**POOR SAFETY “ATTITUDES” CAUSE
MOST ACCIDENTS**

3 PHASED TRAINING PROGRAMME

Pre Employment

Fleet Policy - Selection Process

Induction Programme - Practical Assessment

Attitudinal Profiling

Existing Employee

Staged Programme

Attitudinal

Knowledge

Skill

Mishap Operator

Assessment/Profile

Remedial Follow Up

The Solutions

Management can Target and Eliminate the Major Cause of Most Accidents (Poor Safety Attitudes) in Two Ways:

✓ SOLUTION 1: Selection

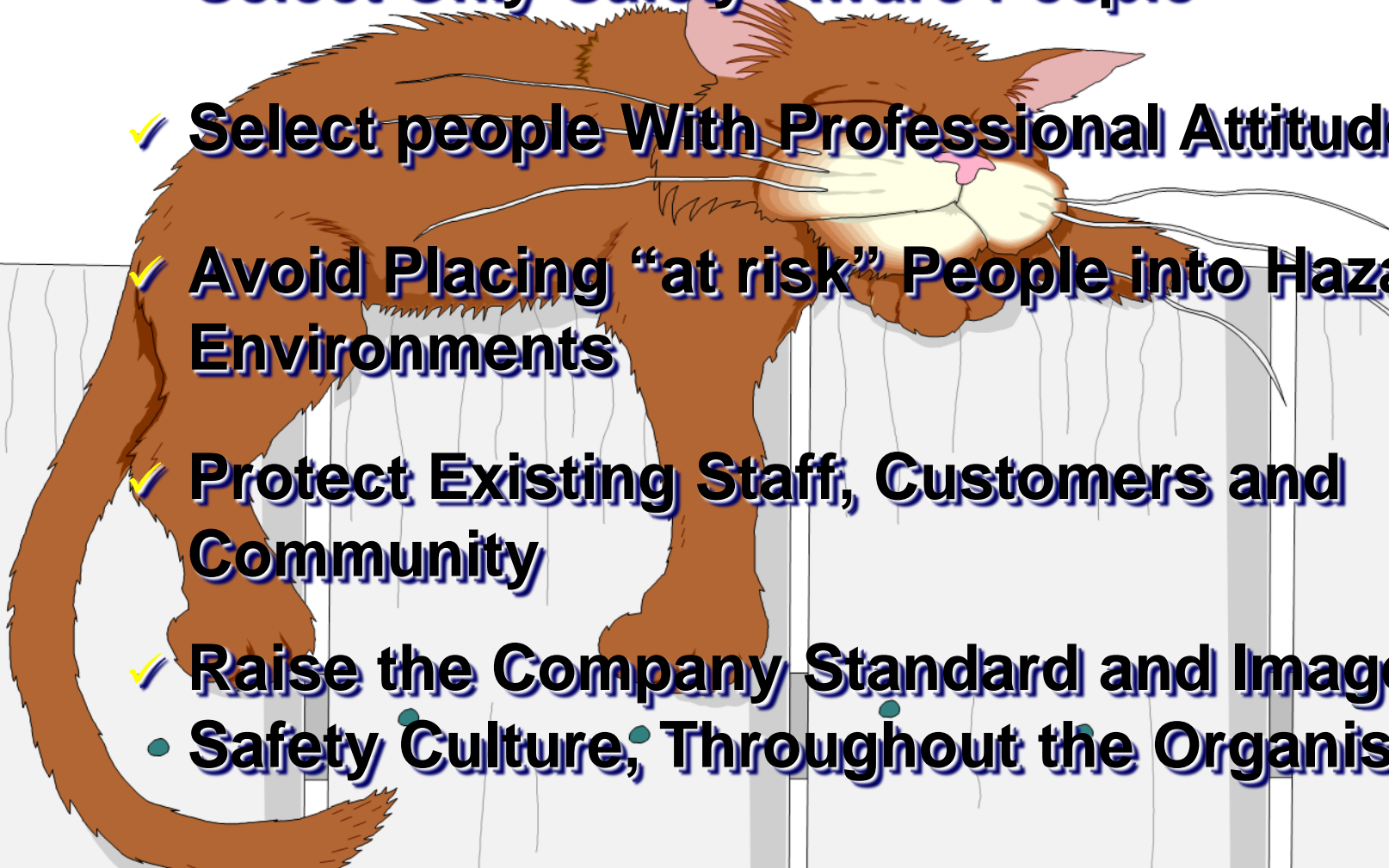
Screening potential high risk employees at point of selection

✓ SOLUTION 2: Training

Changing safety awareness “attitudes” of existing personnel

Solution 1.

“Selection”

- 
- ✓ **Select Only Safety-Aware People**
 - ✓ **Select people With Professional Attitudes**
 - ✓ **Avoid Placing “at risk” People into Hazardous Environments**
 - ✓ **Protect Existing Staff, Customers and Community**
 - ✓ **Raise the Company Standard and Image of**
 - **Safety Culture, Throughout the Organisation**



Lumley General Insurance

***The Accident
Risk
Management
(ARM)
profile***



**The door to
Effective
Accident Risk
Management**

Professional Operators



- ✓ *Past History*
- ✓ *Practical Skills*
- ✓ *Health Status*
- ✓ *Safety Attitude*

Three uses of the ARM

- *Pre-employment Screening*
- *Company Accident Risk Management Survey (CARMS)*
- *Remedial Crash Follow-up*

Checking 'Safety Attitudes'

*Using the ARM Psychological Profile
we can -*

- *Check a drivers Safety Attitude*
- *Predict vehicle accidents*
- *Predict Accident Compensation claims*
- *Identify drivers who will accept training*

Why the ARM System?

- ✓ *It is transportable*
- ✓ *It is easy to administer*
- ✓ *It is 'objective'*
- ✓ *Quick turn around*
- ✓ *Cost effective*
- ✓ *Has the runs on the board*
- ✓ *Has a high 'Validity'*



The ARM Profile

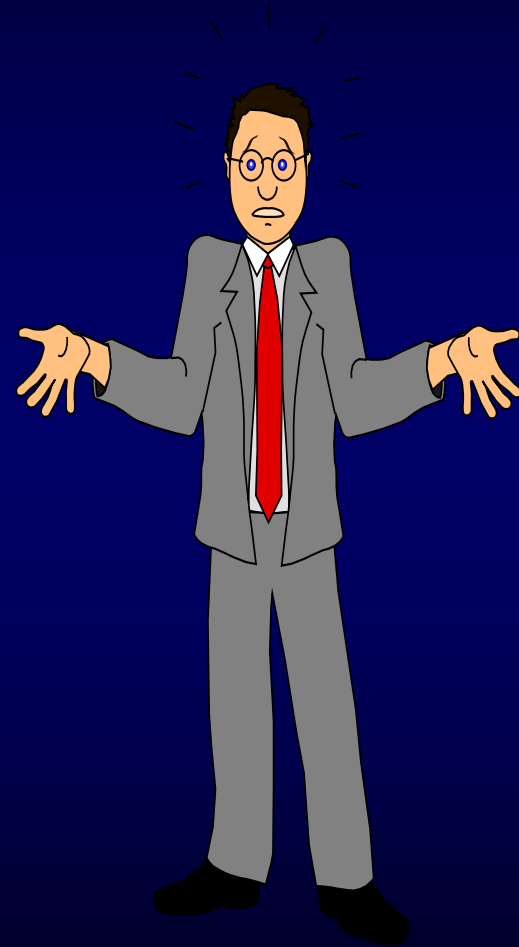
Measures

- *Safety Control*
- *Risk Avoidance*
- *Stress Tolerance*
- *Driver / Operators Attitudes*
- *Quality Orientation*

How Does it Work?

Pre-employment screening

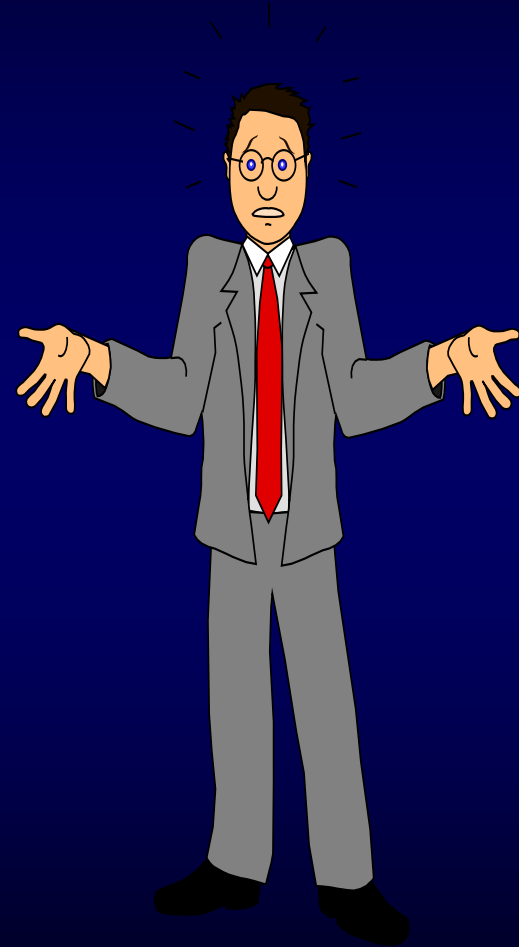
- ❑ The individual is asked for his/her *'opinion'* on 117 questions
- ❑ The answers are faxed for processing
- ❑ Computer evaluates answers
- ❑ Report is Faxed back
- ❑ Determine if the individual meets the Company Standard
- ❑ Include result as part of the overall "Ideal Person" matrix



How Does it Work?

Company Risk Management Survey (CARMS)

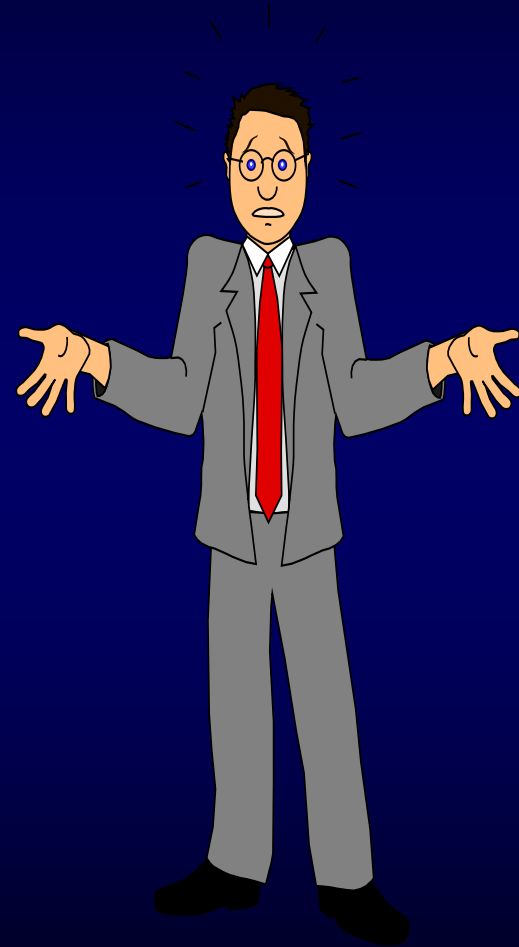
- ❑ The individual is asked for his/her *'opinion'* on 117 questions
- ❑ Computer evaluates answers
- ❑ Individuals de-briefed "one-on-one"
- ❑ Comprehensive report is prepared
- ❑ Identify key Risk areas
- ❑ Develop strategy



How Does it Work?

Remedial Crash Follow-up

- ❑ The individual is asked for his/her *'opinion'* on 117 questions
- ❑ Computer evaluates answers
- ❑ Individual de-briefed "one-on-one"
- ❑ Identify key Risk areas
- ❑ Report provided to Company
- ❑ Develop strategy



Validity Scales

The **two** Validity Scales,
Accuracy and **Distortion**,
ensure the internal integrity
and reliability of the profile.

Distortion

The distortion scale is a measure of how much an individual has attempted to **distort their answers to intentionally make a favourable impression.**

It is a **critical score.**

Scores ranging from **1 to 19** are **Invalid**

Accuracy

The accuracy scale is a measure of how **carefully and accurately the individual has completed the questionnaire.**

People who have significant **literacy or comprehension problems, randomly respond (uncooperative), or are careless or distracted** are identified.

Scores ranging from **1 to 9** are Invalid.

Safety Control

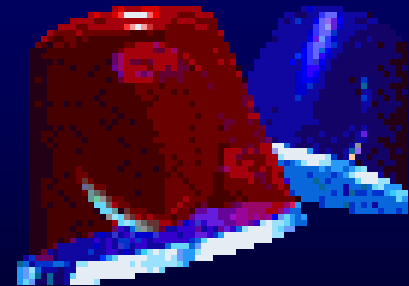
This scale assesses whether an employee will assume responsibility for job safety and accident prevention

This scale is based on the **“locus-of-control”** theory. A person’s **“locus-of-control”** refers to the attitudes or beliefs about who or what controls one’s behaviour and consequences.

Individuals with an **“internal”** locus-of-control take **personal responsibility** for safe behaviour and accident prevention.

Safety Control

Individuals with an **“external”** locus-of-control tend to blame accidents on **external factors** such as fate, chance or bad luck. The Safety Control score provides a measure of safety consciousness



Safety Control

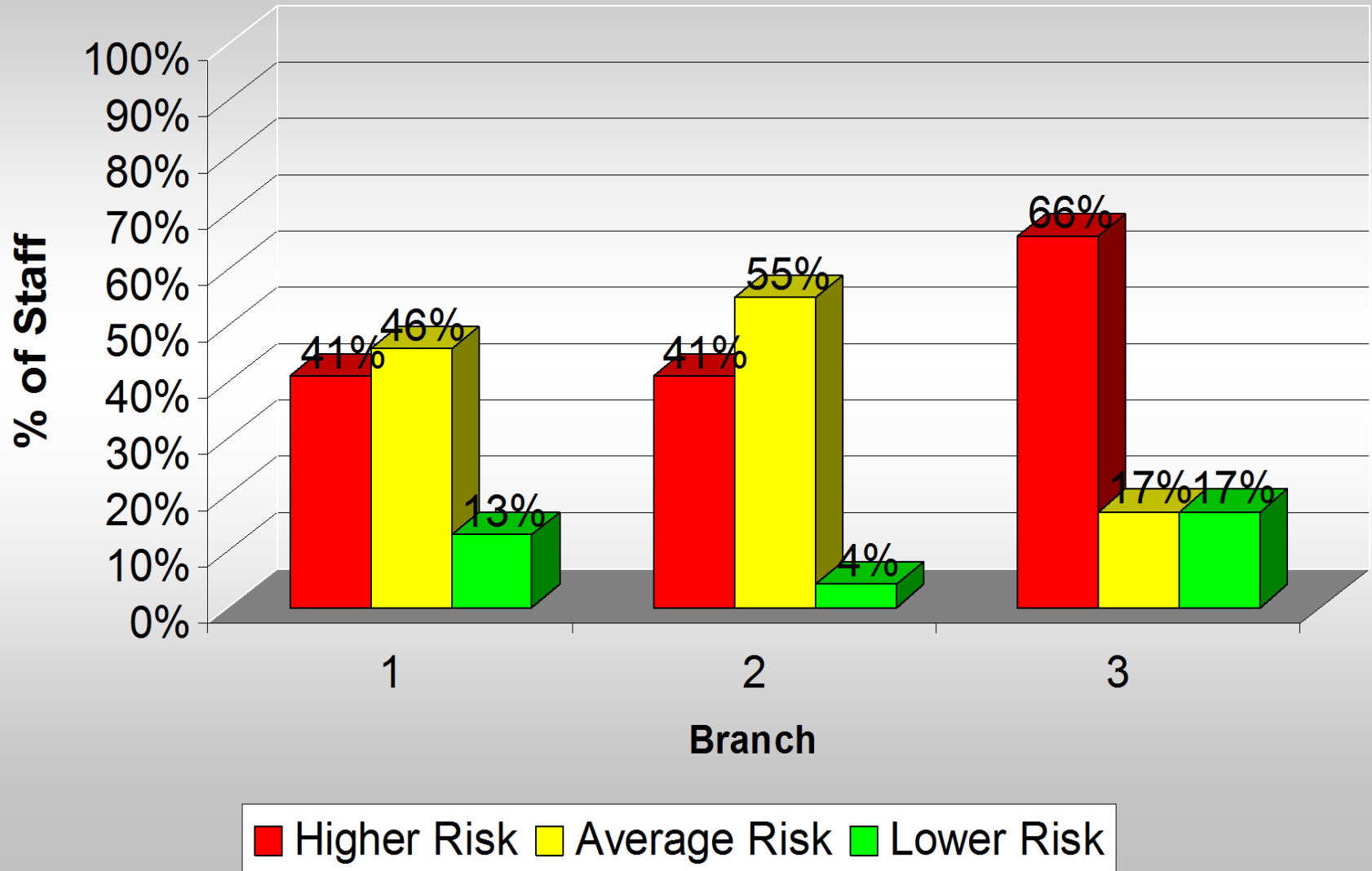
Possible descriptors -

- *Lacks insight and understanding*
- *Expects problems and hardships*
- *Fails to complete jobs – meet deadlines*
- *Is dependant*
- *Lacks initiative/needs rescuing*
- *Avoids making decisions*
- *Can be self sacrificing*
- *Worries what others may think*
- *Feelings easily hurt*
- *Lacks self worth/feels undeserving/"poor me"*
- *Lower self esteem*
- *Is easily victimised/easy target (sometimes seeks it)*

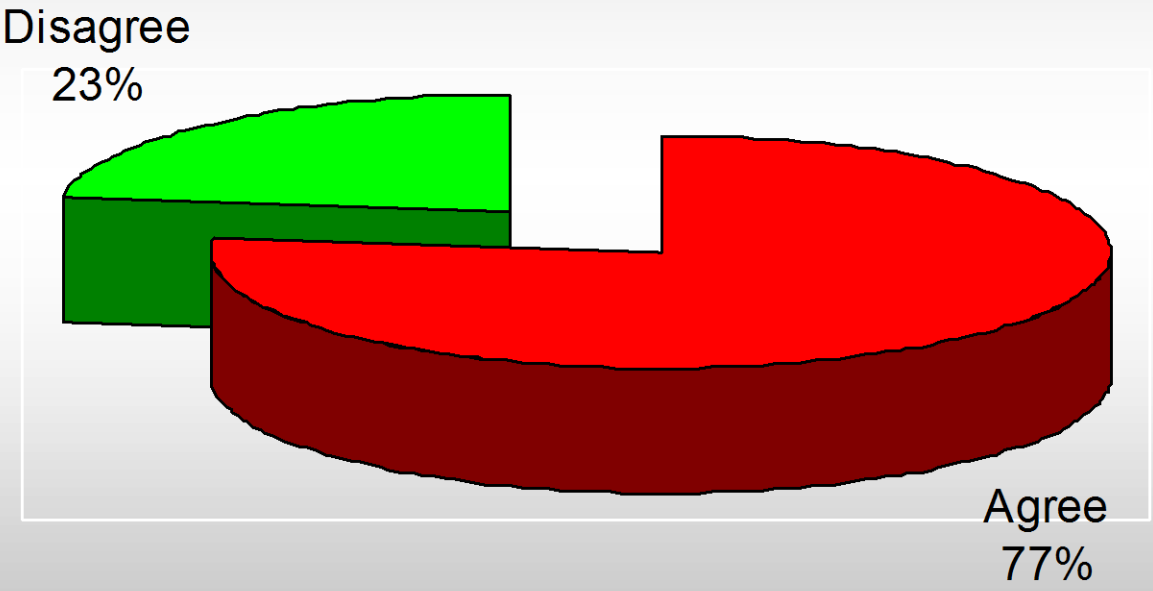
**COMPANY ACCIDENT
RISK MANAGEMENT SURVEY
(CARMS)**

**For
Sample Company Ltd.**

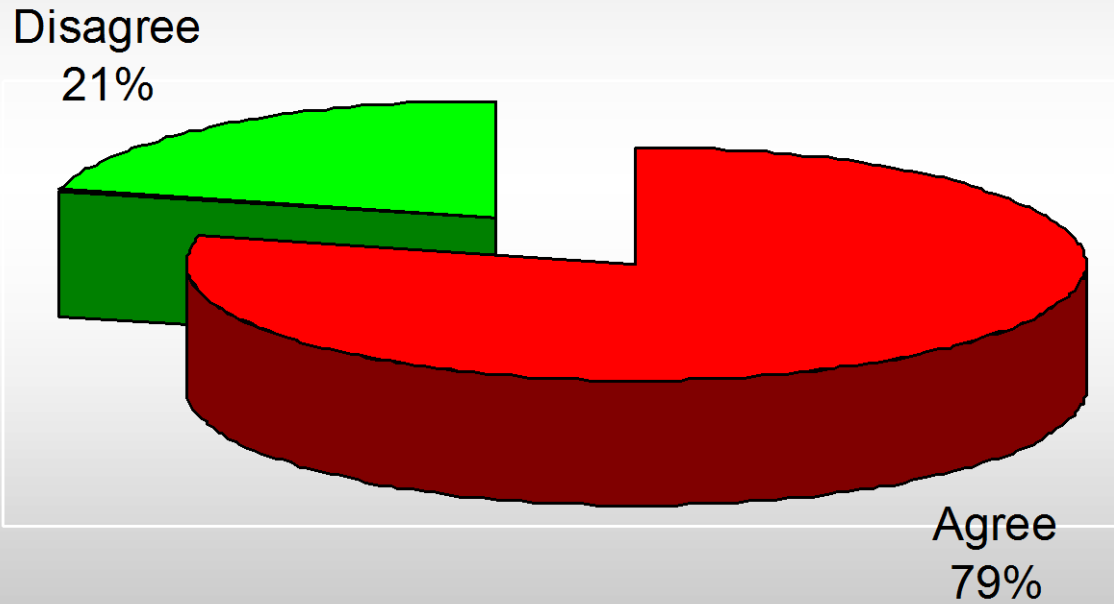
Safety Control



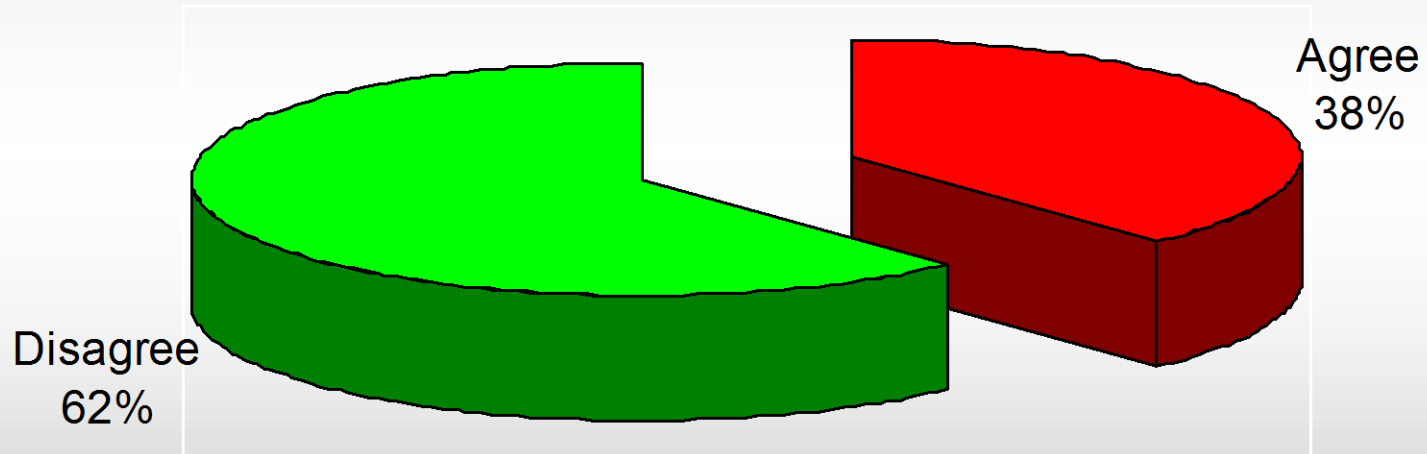
Expects to be personally involved in accidents at work



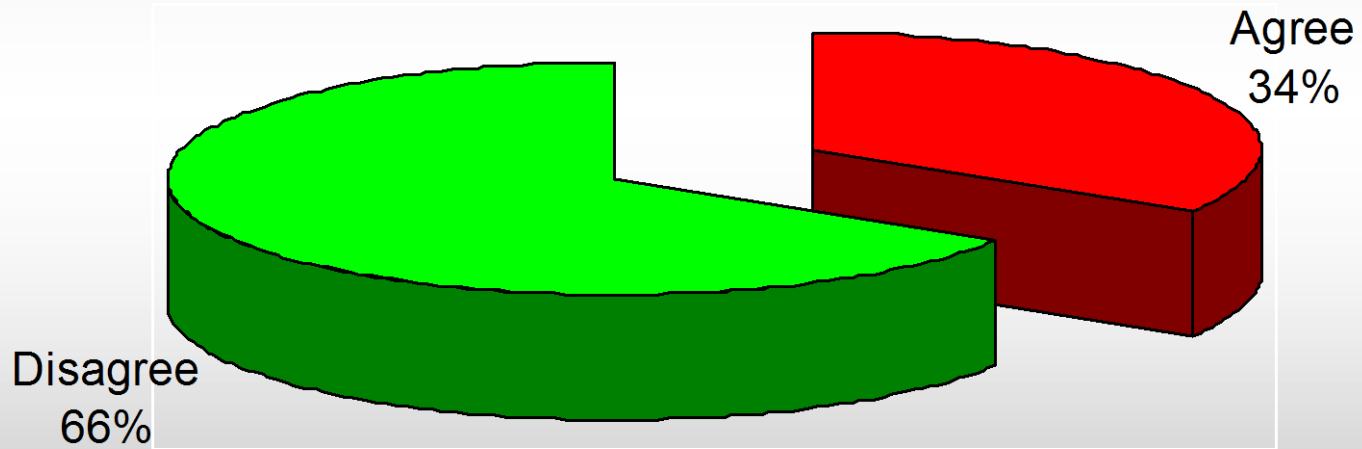
Failure to foresee events that causes most accidents



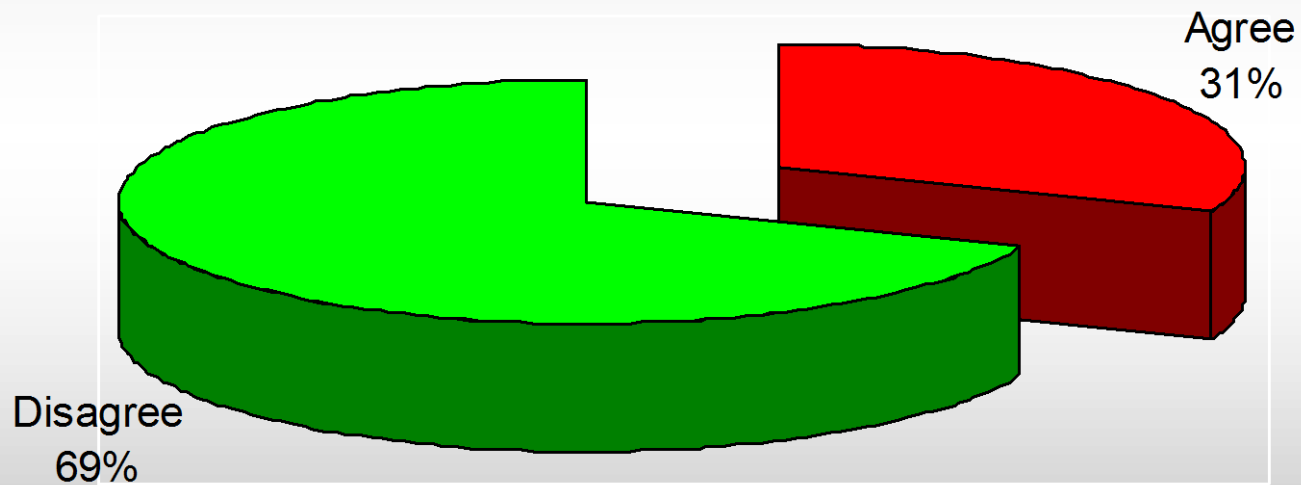
Accidents happen because of misfortune



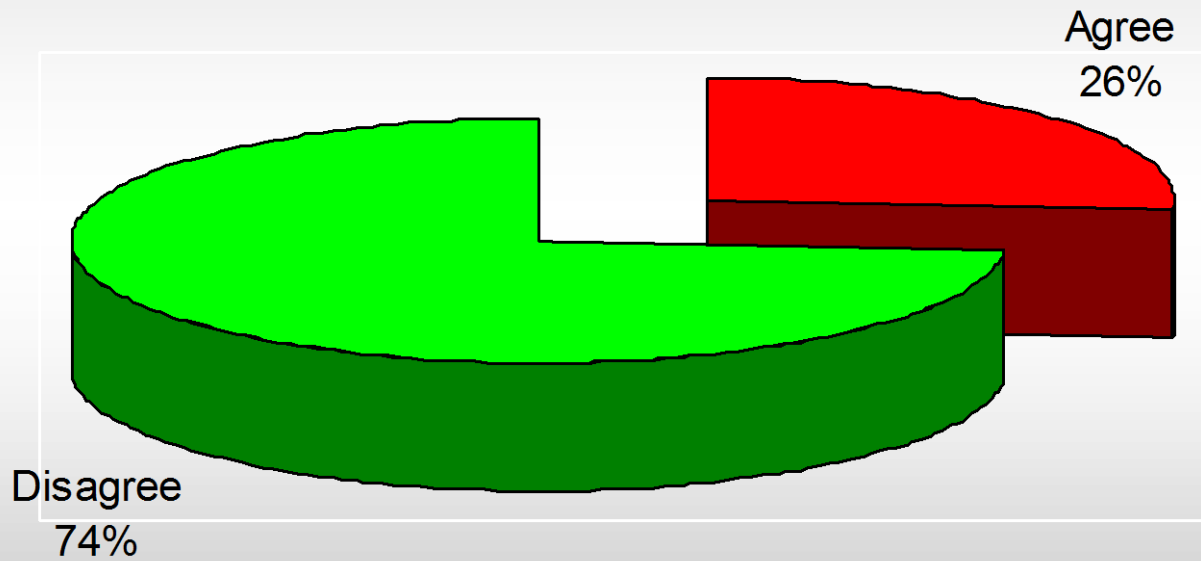
Reacts inappropriately (aggression) to confrontation



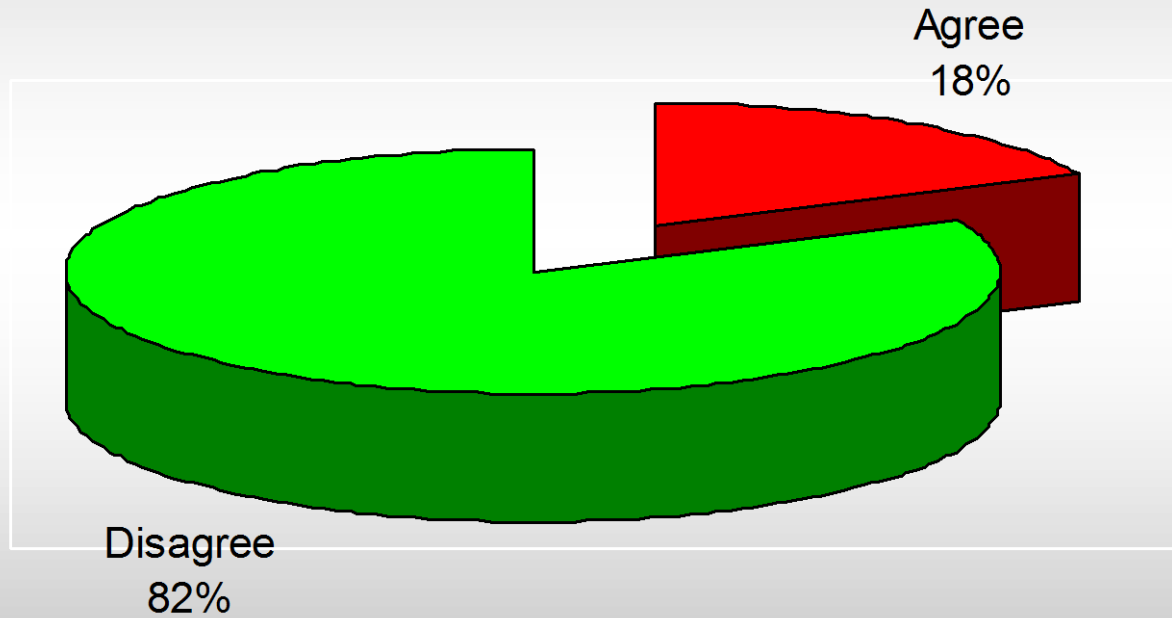
Accidents and injuries are inevitable in dangerous jobs



Helpless to avoid accidents

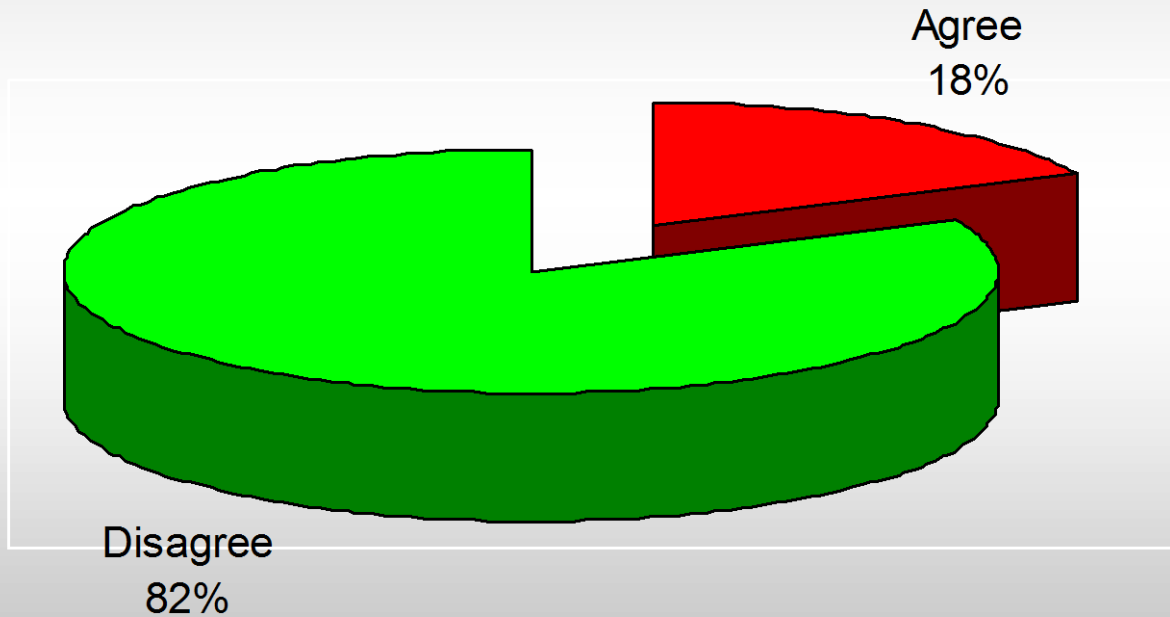


Expects personally to have an accident soon





Following Company safety regulations will not prevent on-the-job accidents



Risk Avoidance

This scale assesses tendencies to engage in high risk, dangerous and thrill-seeking behaviours

It will measure whether a person is likely to routinely follow company safety rules and regulations, or to break these rules due to boredom, carelessness or a desire to engage in risk-taking behaviour.

Risk Avoidance



The Risk Avoidance scale also assesses proneness to engage in other **counter-productive** and **dangerous behaviours** (e.g. not using safety equipment) that can result in on-the-job accidents

Risk Avoidance

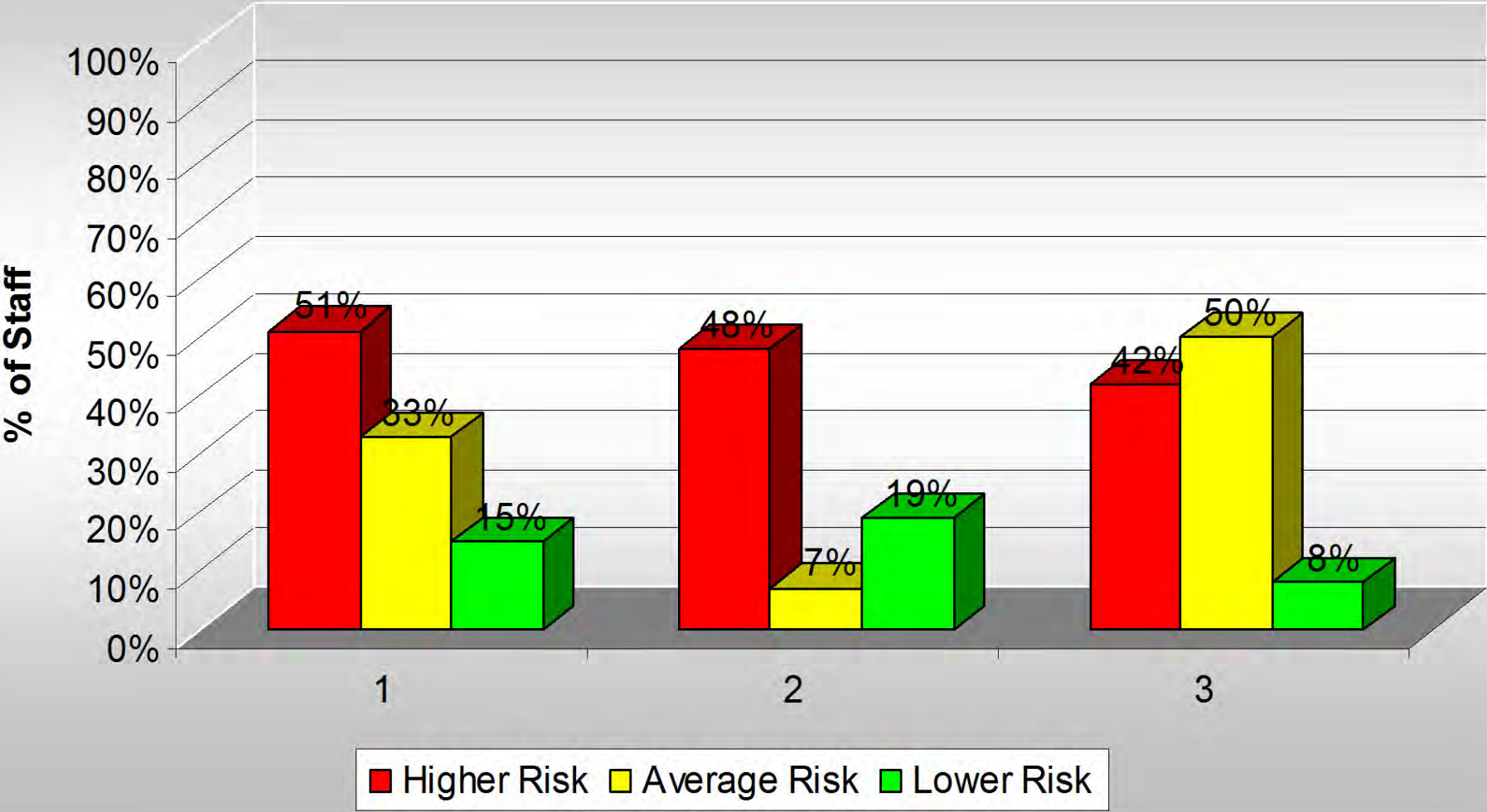
Possible descriptors -

- A short fuse/needs constant stimulation
- Aggressive behaviour
- Puts people down
- A **'Know it all'** superior attitude
- Acts out "risk taking", talking tough
- Needs continuous reinforcement of tough image
- Negative teasing – bullying
- Stirring behaviour
- Complaining
- Confrontational
- Also has low self-esteem
- Negatively competitive
- "Hides" behind image of toughness (might not know it)
- Dog eat Dog – no one will accept me so I must take what I want

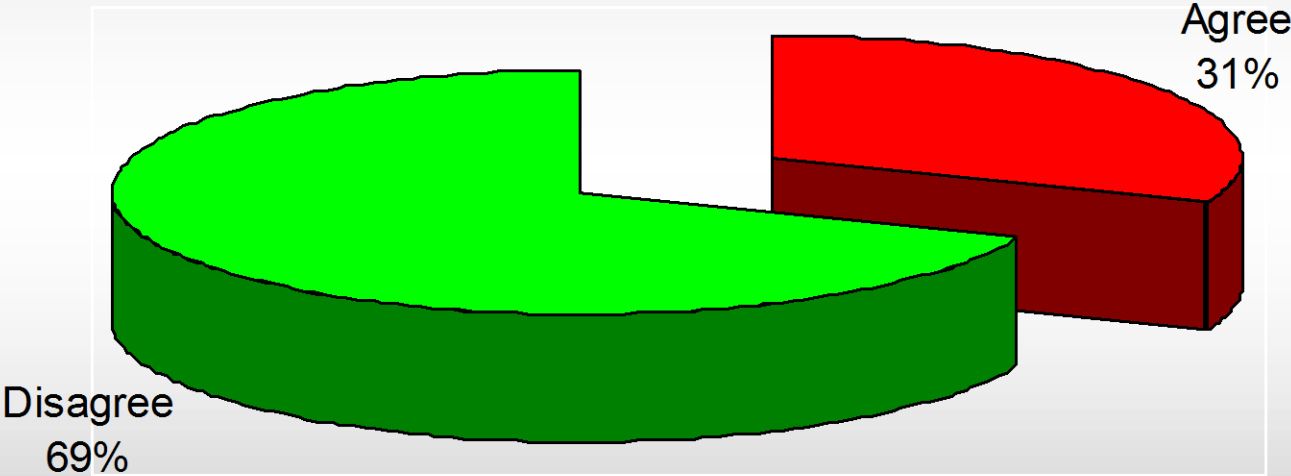
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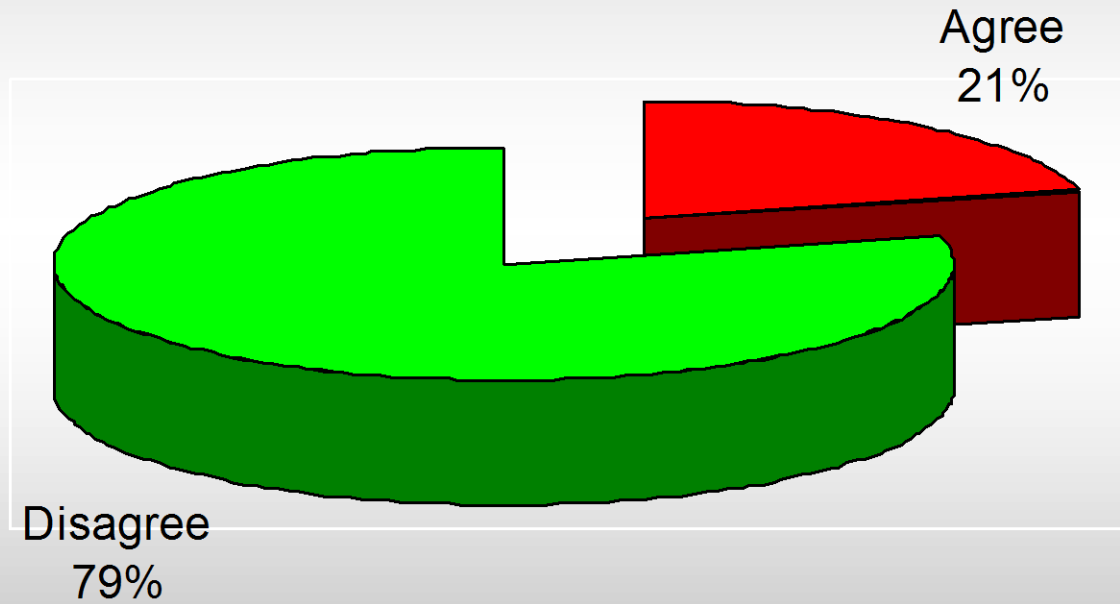
Risk Avoidance



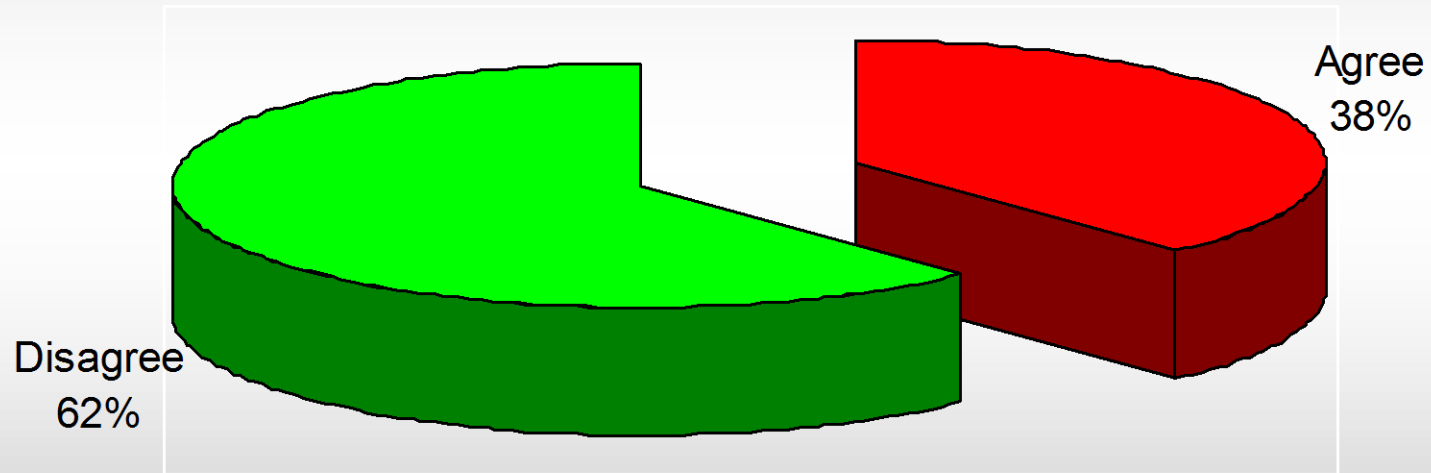
Personal difficulty with controlling anger



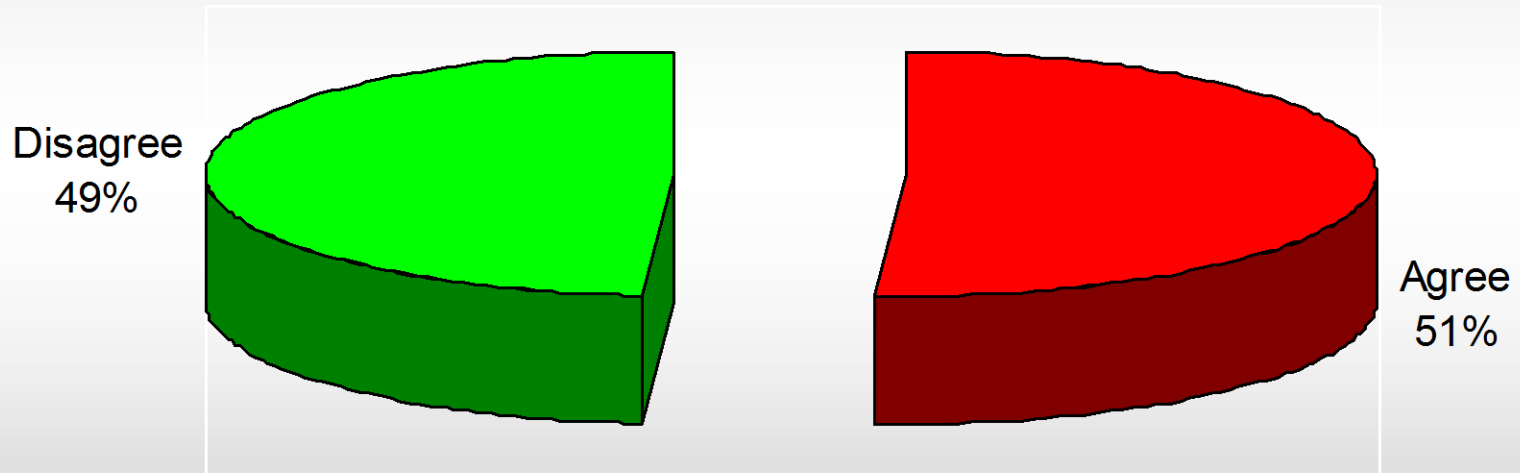
Tendency to use violence to resolve conflict



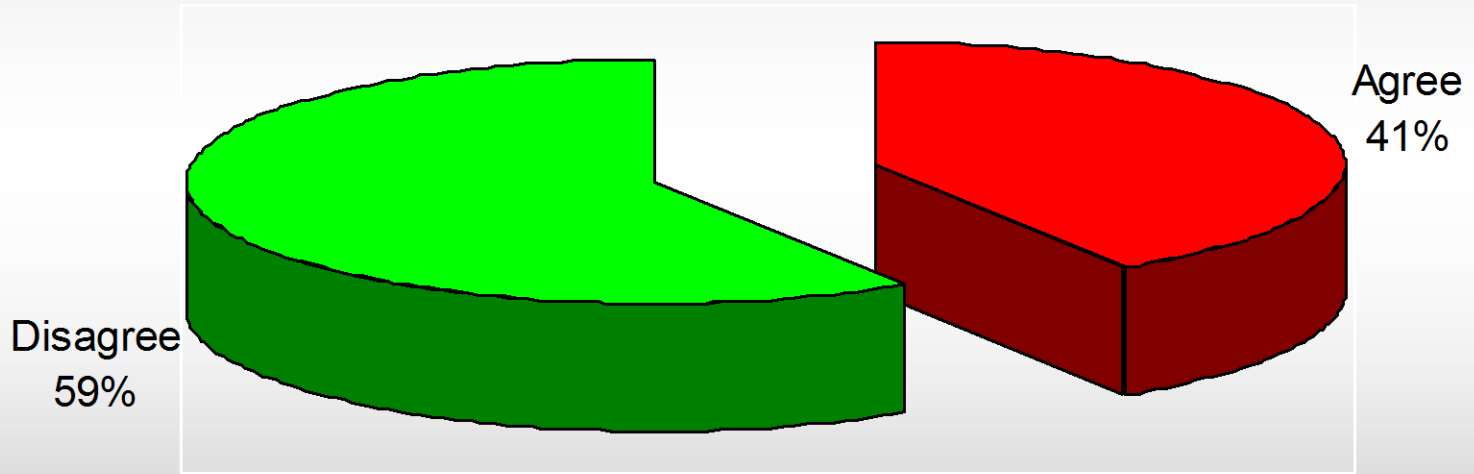
Admits to being short tempered when annoyed



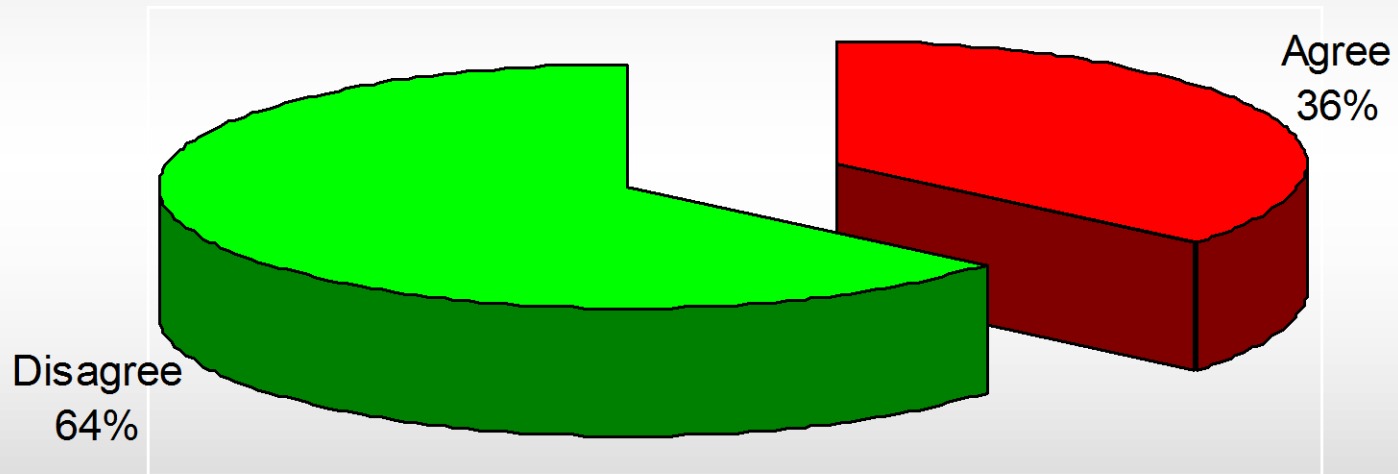
Preferences for frightening or dangerous activities



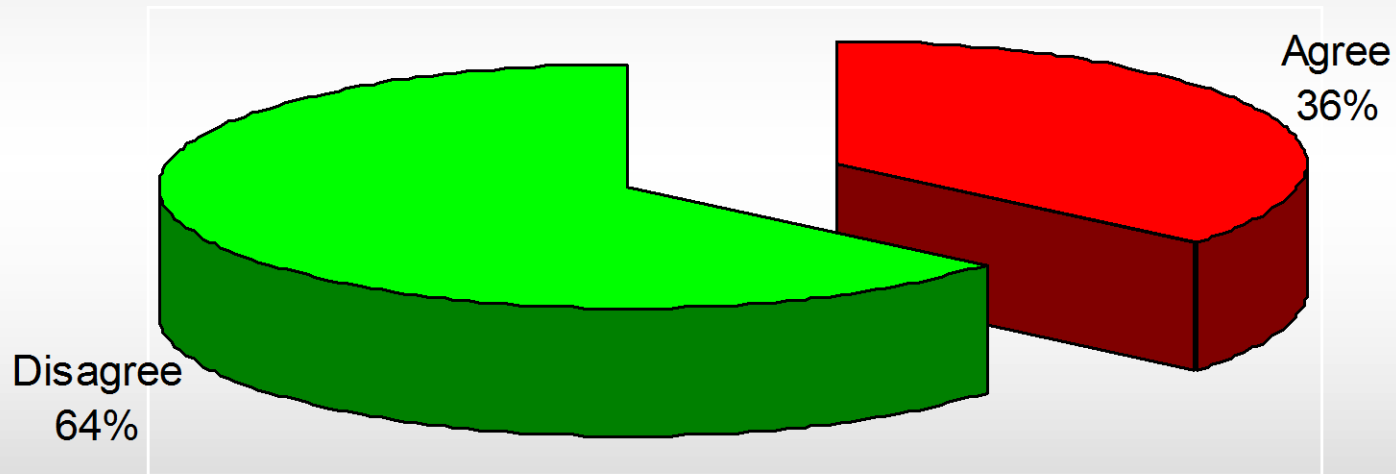
Preference for taking risks



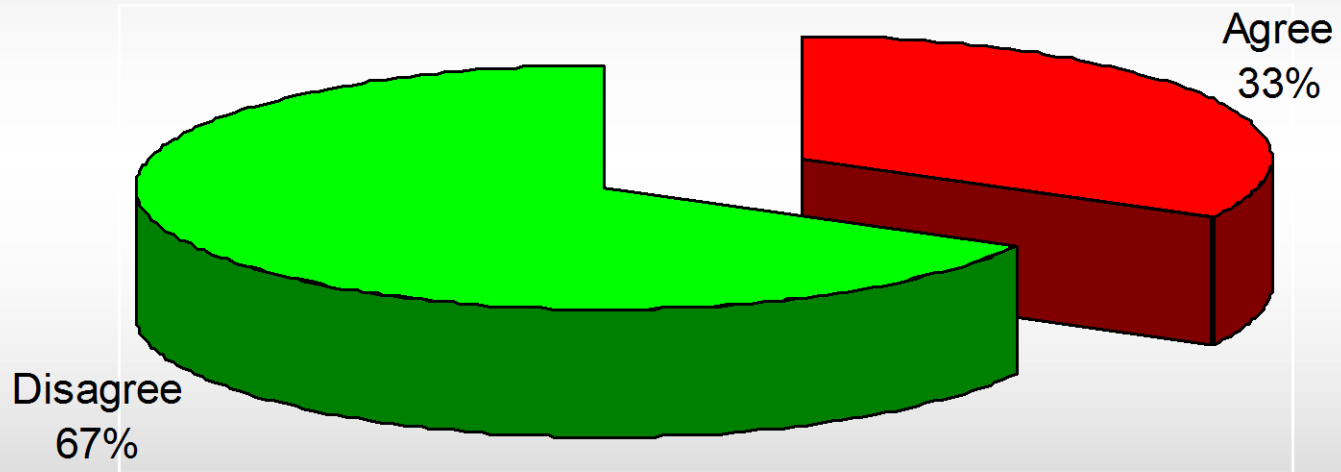
Lacks tolerance for routine and structure



Engages in thrill-seeking, dangerous behaviour



Does not always follow the Company rules



Avoiding Risks

In Australia - research of 125 drivers of front end loaders indicated that the higher risk takers were responsible for 72% of accidents and 82% of lost time due to injuries.

Stress Tolerance

This scale assesses tendencies an individual's on-going experience with stress and the ability to withstand stress

This scale measures an inability to cope with stress, as opposed to the normal temporary feelings of stress that we all experience

Stress Tolerance



Stress-prone employees are **potentially** at **higher risk** to have **on-the-job accidents** since they are more **susceptible to distraction**.

Stressed employees often become **fatigued**, increasing the probability of over-exertion injuries and careless or reactionary behaviours in their attempts to “cut corners”.

Stress Tolerance

Possible descriptors –

Nervous, tension Stress

- Takes short-cuts and makes silly mistakes
- Jumpy, agitated, worrying
- Poor concentration
- Reactionary
- Difficulty sleeping
- Easily distracted
- Impulsive
- Low tolerance for stress

Depressive Stress

- Particularly fatigue prone
- Alienated
- Slow and robotic, lethargic
- Uncaring
- Non-communicative
- Withdrawn
- Pessimistic
- Unmotivated

Stress Tolerance

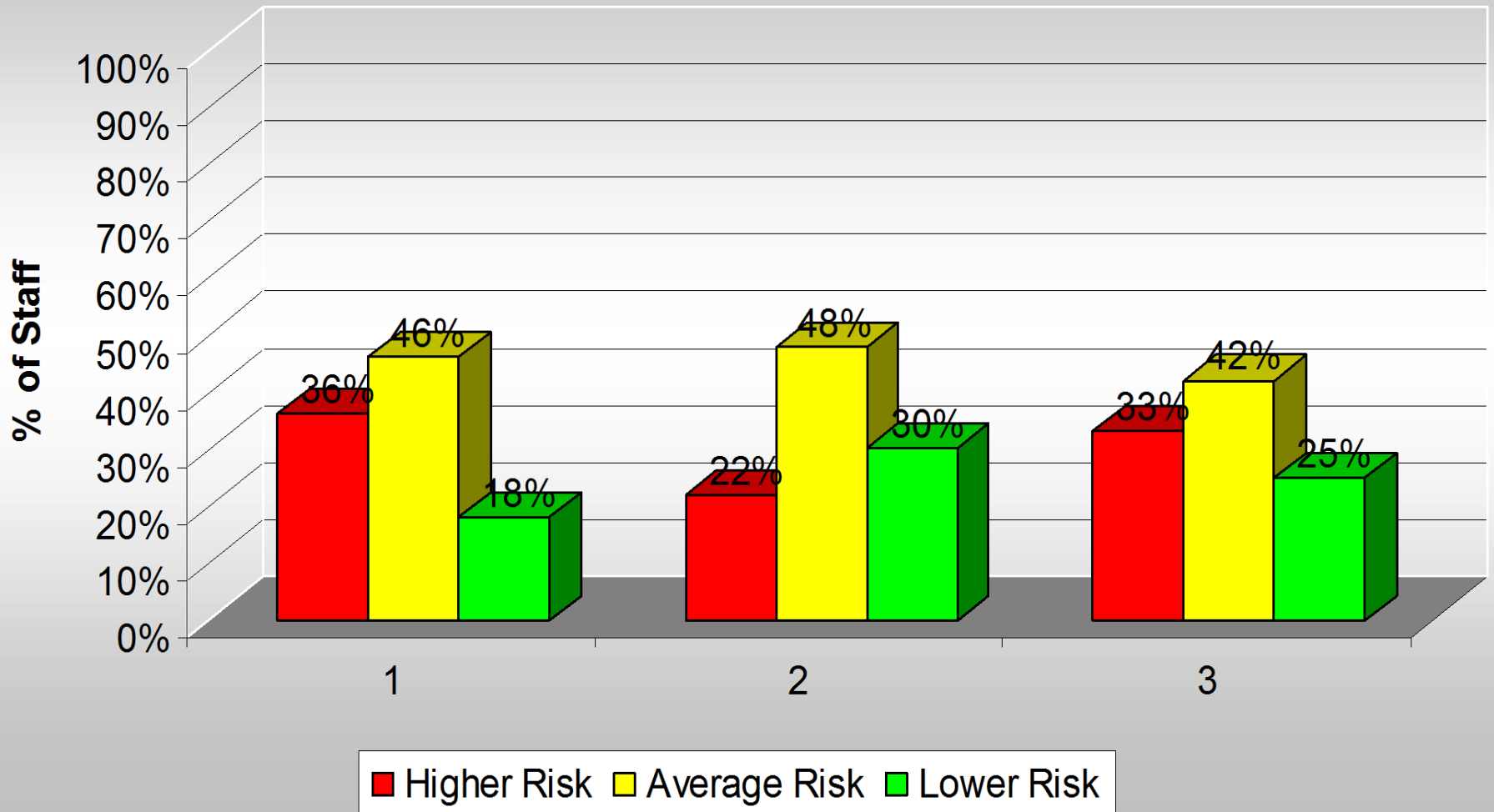
Possible descriptors – Aggressive Stress

- Short fused
- Creates (or seeks) conflicts
- Loud
- Demeaning
- Distrustful, suspicious
- Confrontational
- Bullying
- Intolerant
- Paranoid
- Reactionary
- Sarcastic
- Pessimistic
- Unmotivated

**COMPANY ACCIDENT
RISK MANAGEMENT SURVEY
(CARMS)**

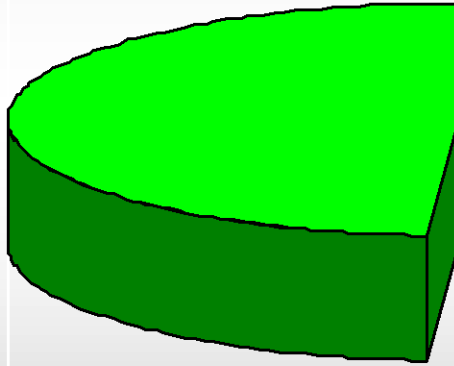
**For
Sample Company Ltd.**

Stress Tolerance

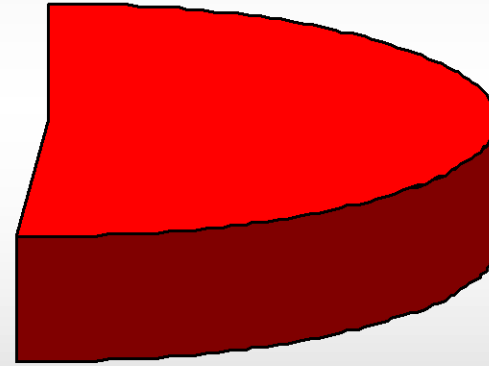


Low frustration tolerance to delays

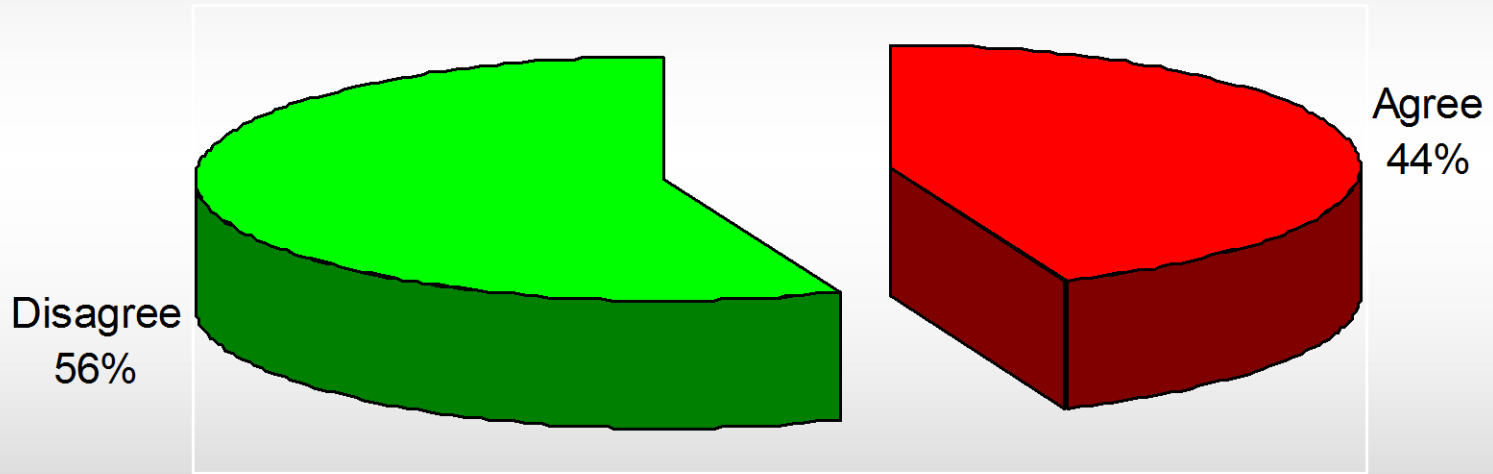
Disagree
49%



Agree
51%

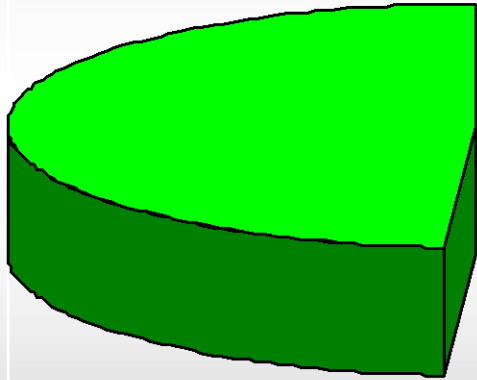


Experiences frequent stress at work

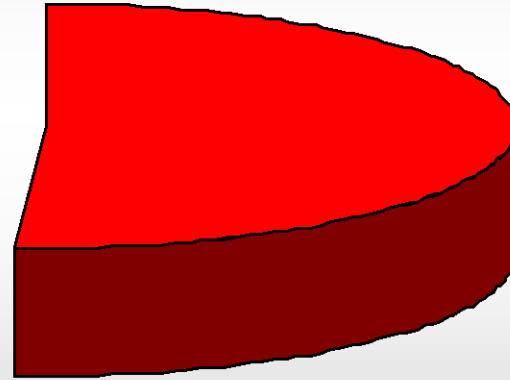


Frequent fatigue due to poor sleep habits

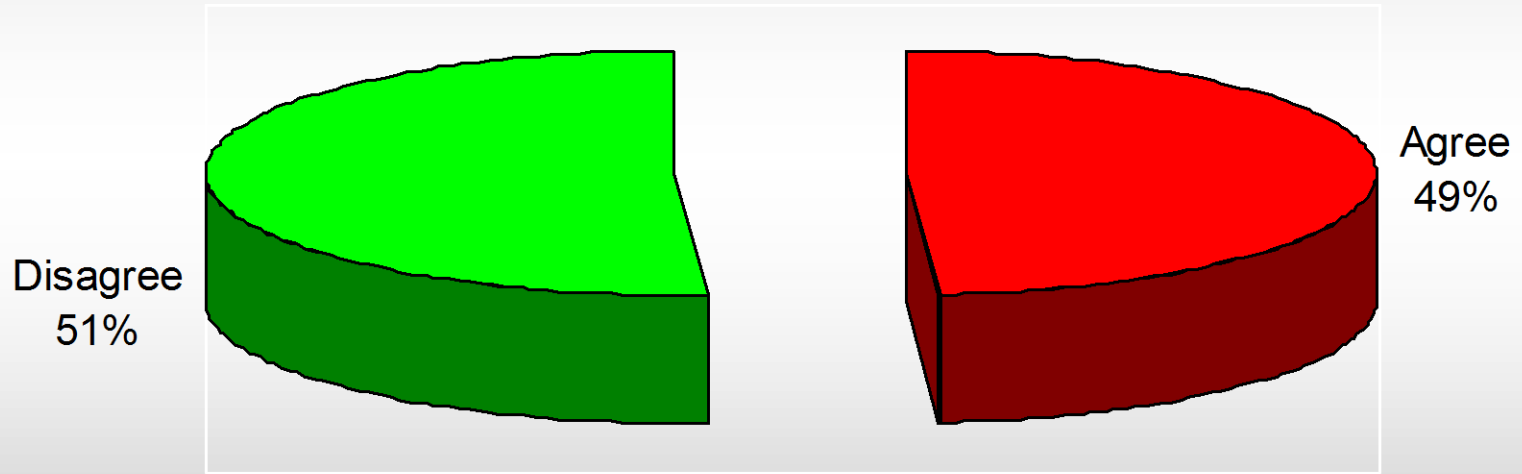
Disagree
49%



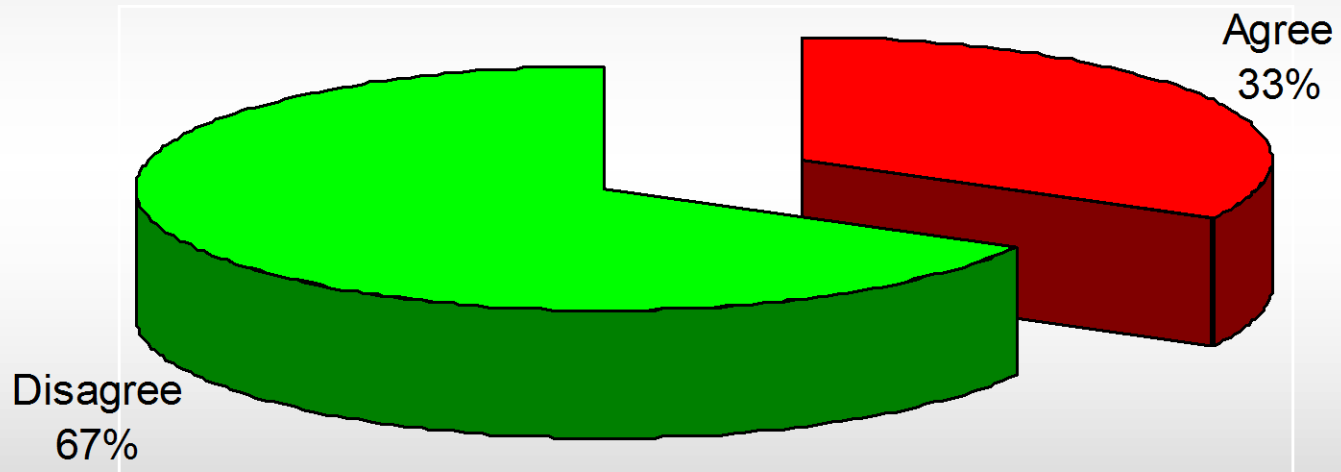
Agree
51%



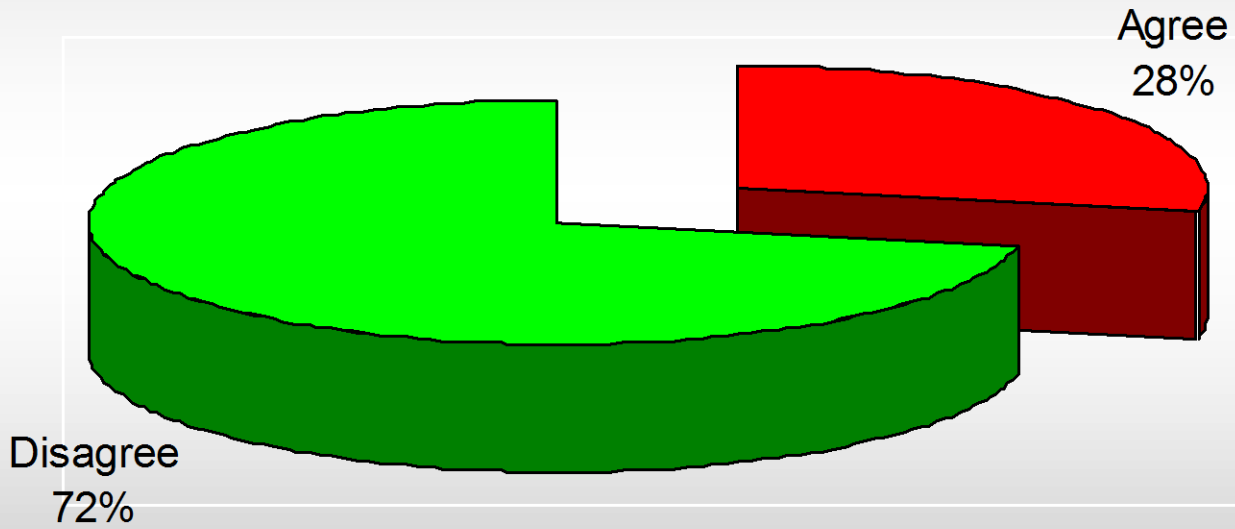
Overreacts to small issues



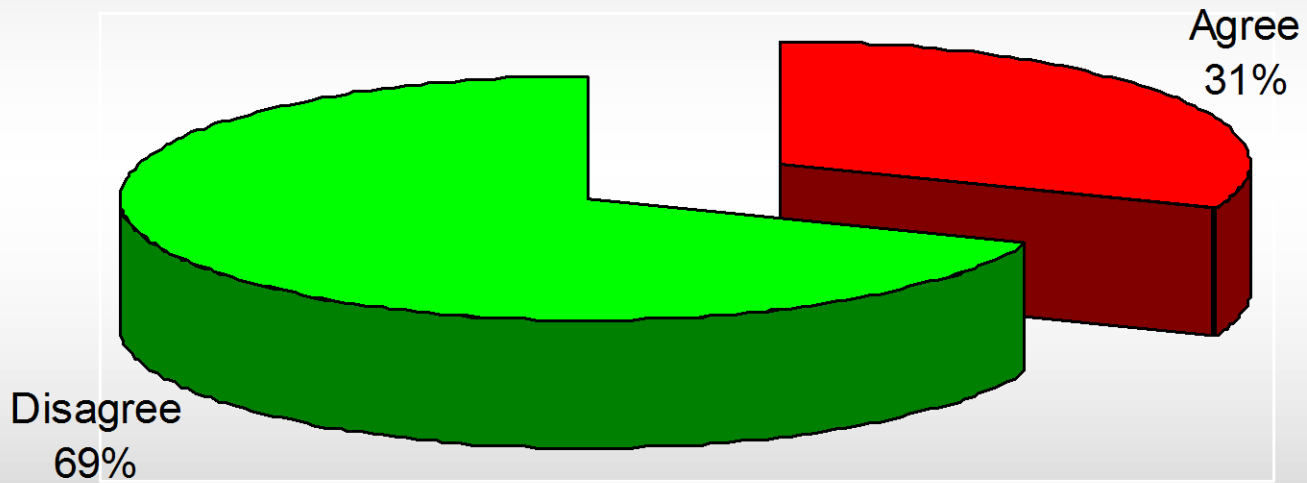
Reports severe dissatisfaction with life or career



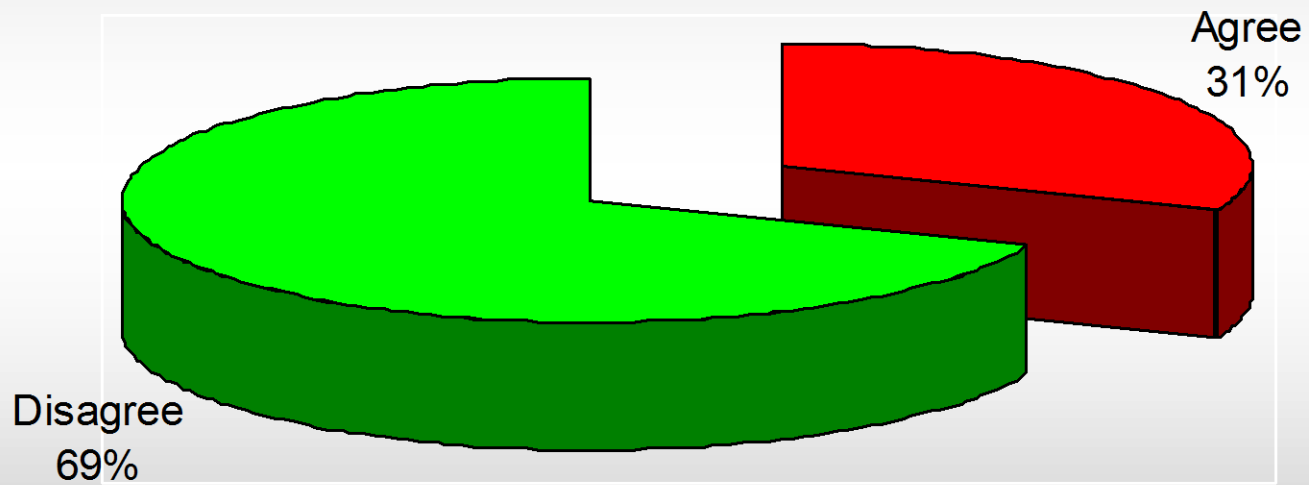
Easily distracted when working



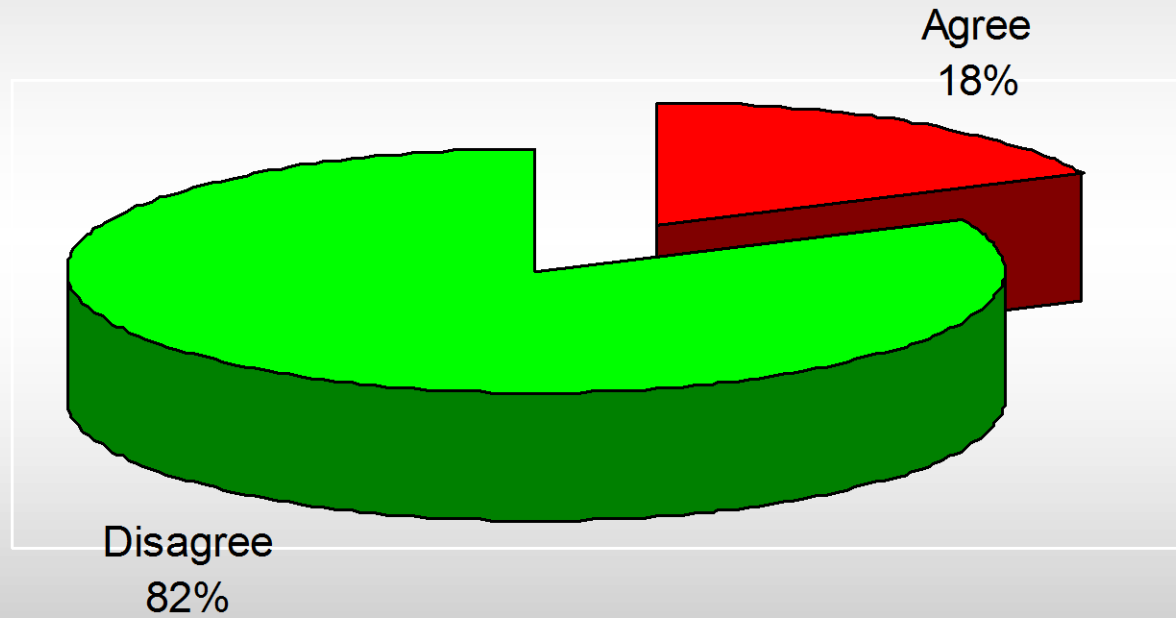
Recent worsening of attitude to life and work



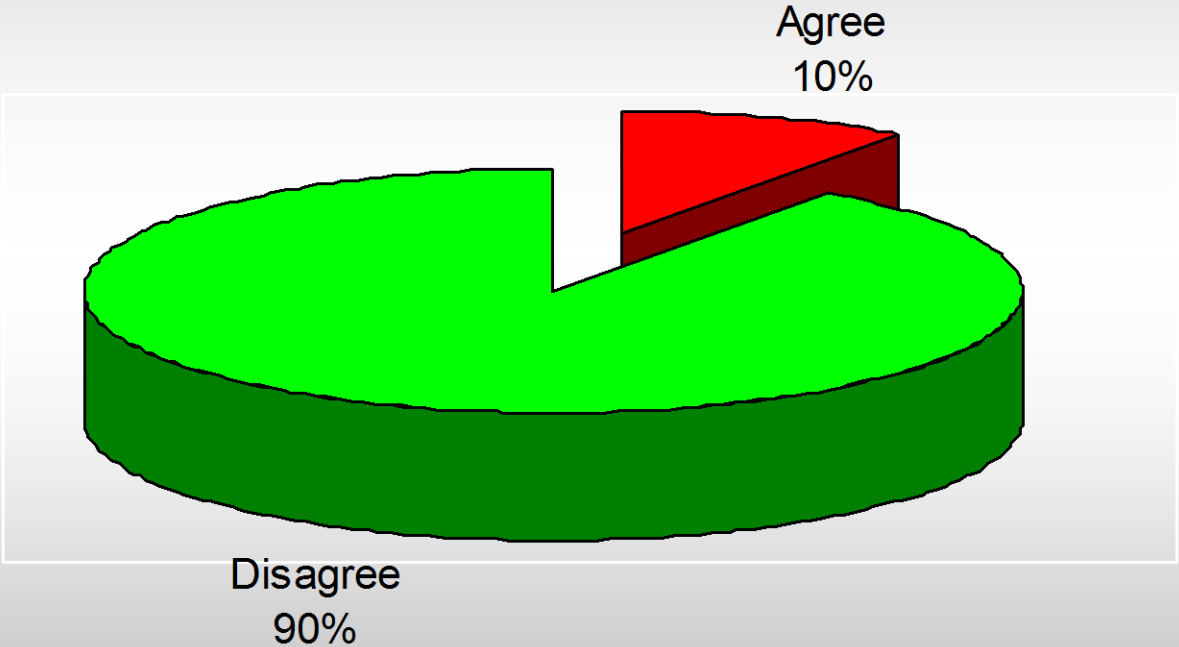
Reports work related fatigue



Experiences physical symptoms of stress



Has insufficient energy to handle daily problems



Safety Index

The ARM scales of **Safety Control**, **Risk Avoidance** and **Stress Tolerance** contribute to an overall composite score or "**Safety Index**".

This score is an important evaluation guide and may determine the respondent's **suitability for hiring**, **training** or **placement** into a particular safety-sensitive position.

Safety Index

This score also provides an **overall measure** of the likelihood that the individual **will be involved** in on-the-job accidents, or be **successful in preventing and avoiding** accidents at work.

Safety Index

Low Score

Greater probability that the individual has overall **unfavourable work safety attitudes** and is likely to engage in unsafe work behaviours.

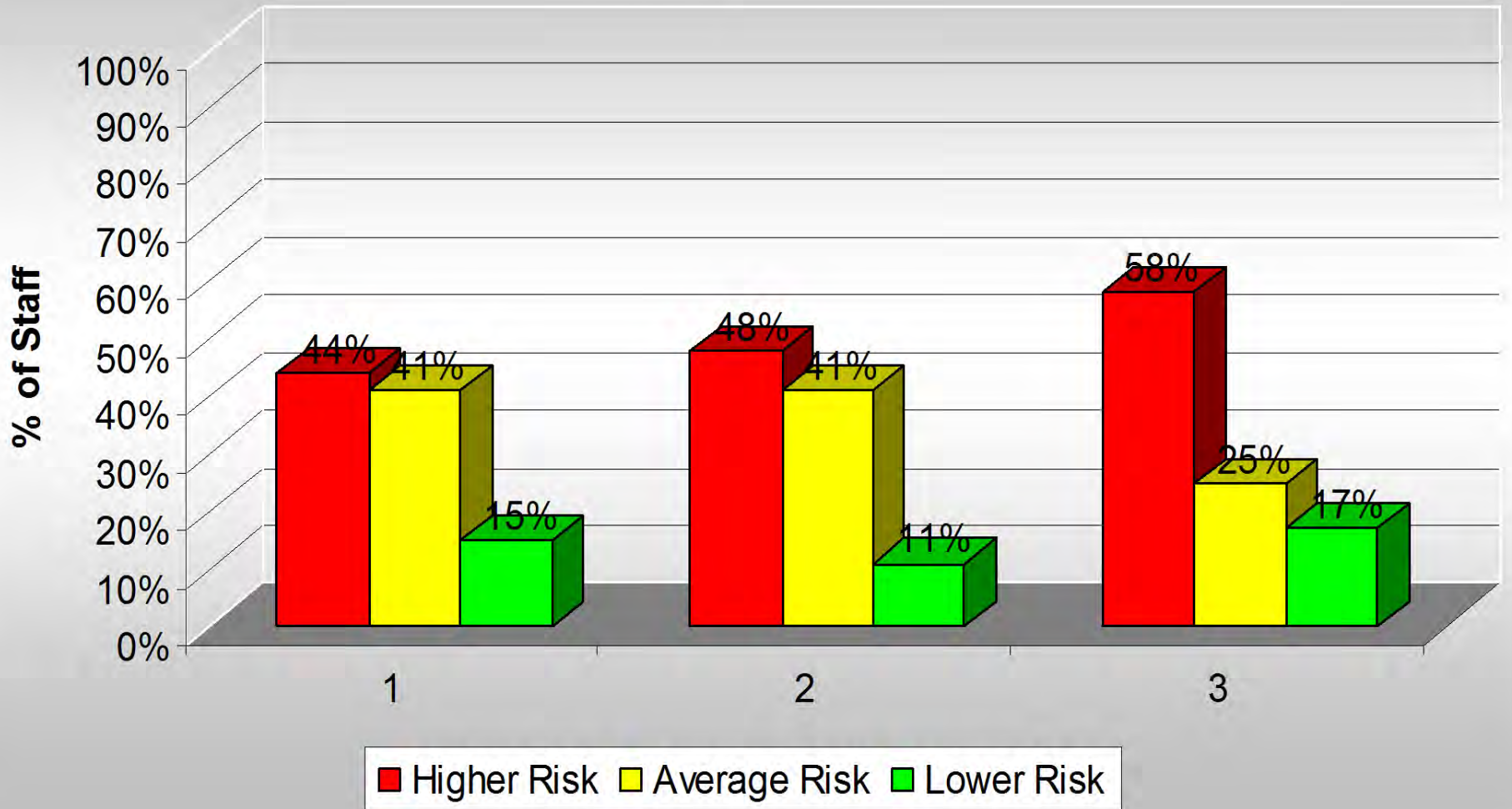
High Score

Greater probability that the individual has overall **favourable work safety attitudes** and is less likely to engage in unsafe work behaviours.

**COMPANY ACCIDENT
RISK MANAGEMENT SURVEY
(CARMS)**

**For
Sample Company Ltd.**

Safety Index



Driver Attitude

This scale assesses an individual's likelihood for regularly engaging in safe driving / operating practices



Driver Attitude

This scale assesses **attitudes toward safe driving practices**. It identifies where an individual has **unsafe driving attitudes and practices** that could lead to **motor vehicle and on-the-job accidents**, such as speeding and other moving violations.

Poor scores generally indicate **less regard and compliance with road rules** and company safety practices.

Driver Attitude

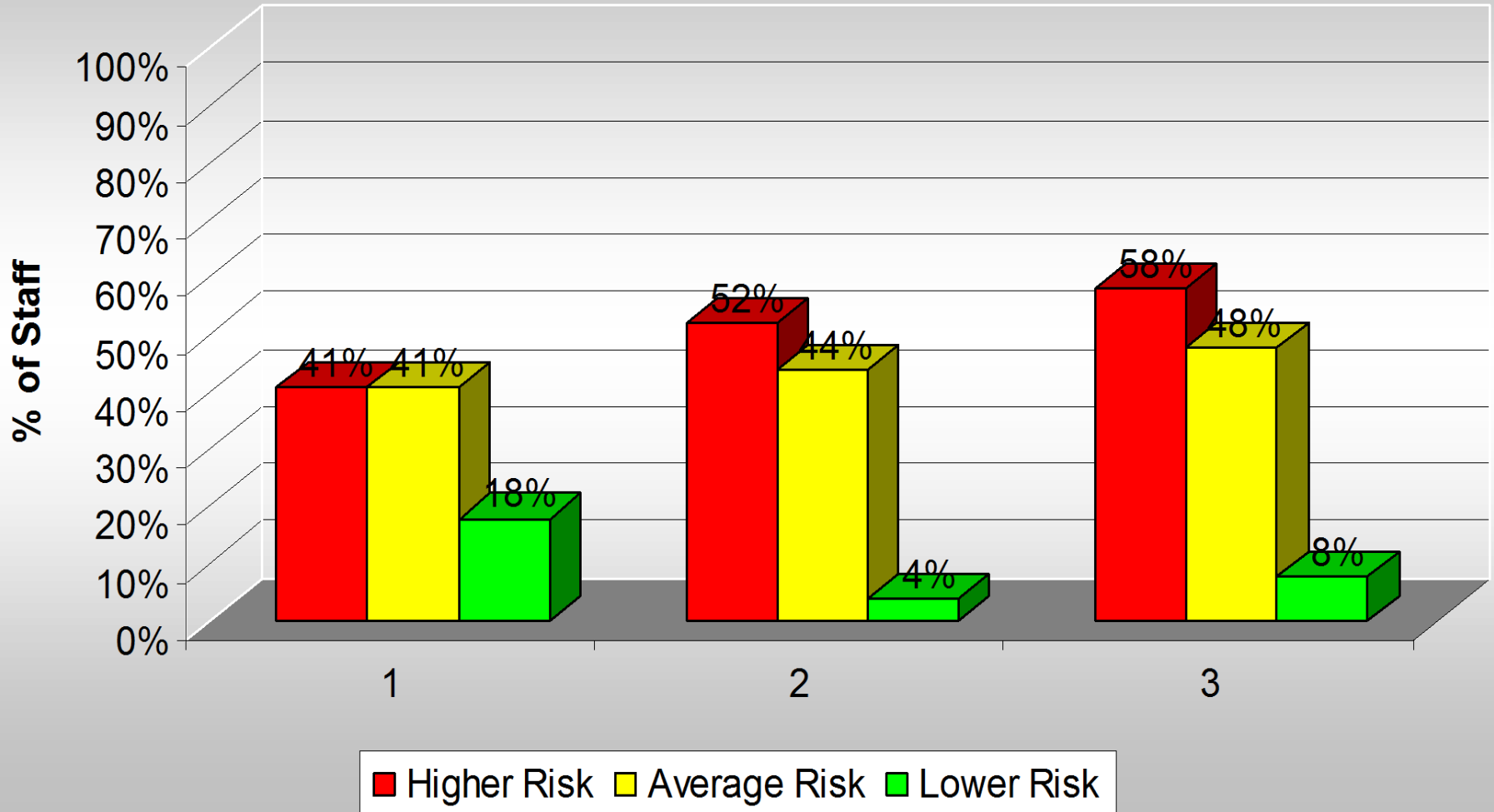
Possible descriptors –

- Sees self as “just a driver”
- Lower self-image
- Non-compliant with company/road rules
- Teaches public a lesson
- Drives competitively – aggressively
- Blames accidents on everything but own shortcomings
- Everything is someone else’s fault
- Lacks pride in profession
- Sees accidents as inevitable
- More infringements
- Drives offensively – vehicle as a weapon
- Careless with vehicle – neglects maintenance and tidiness

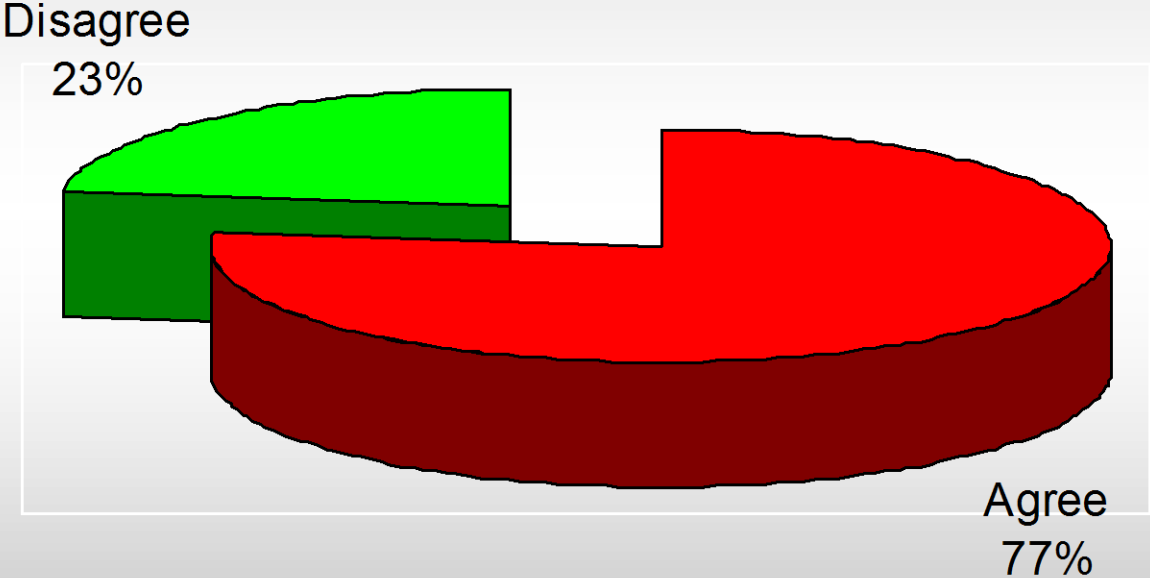
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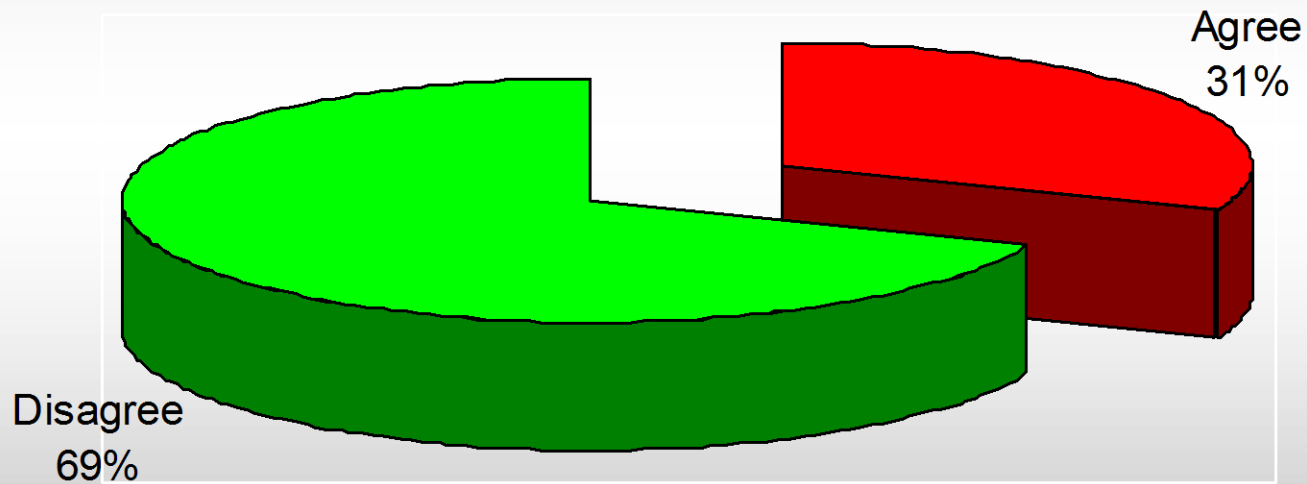
Driver Attitude



Expects to be involved in a traffic accident



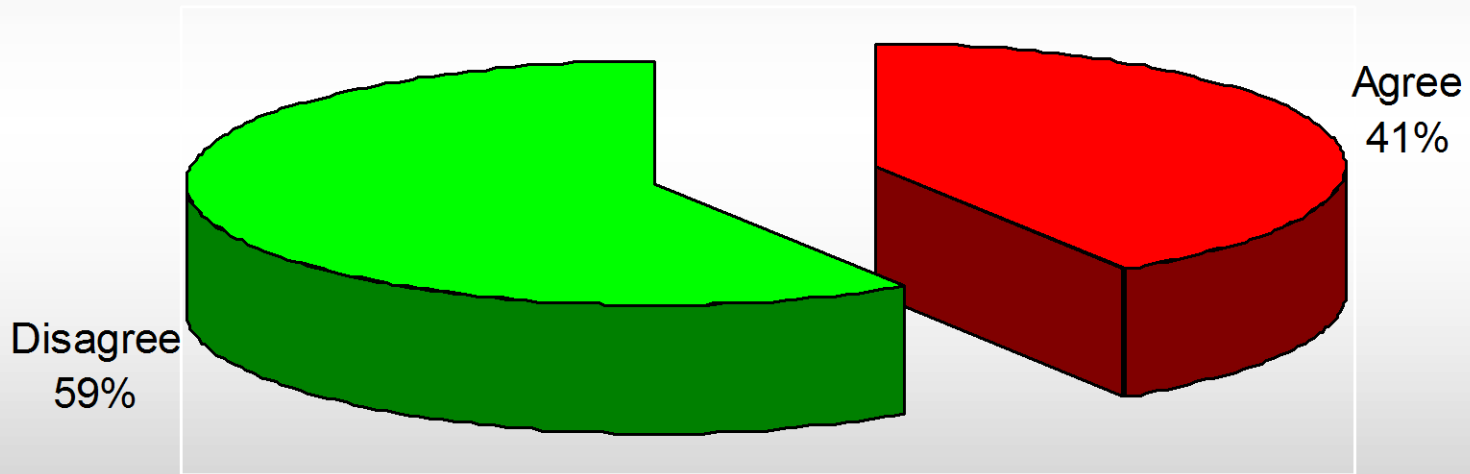
Driver usually not responsible for motor vehicle accidents



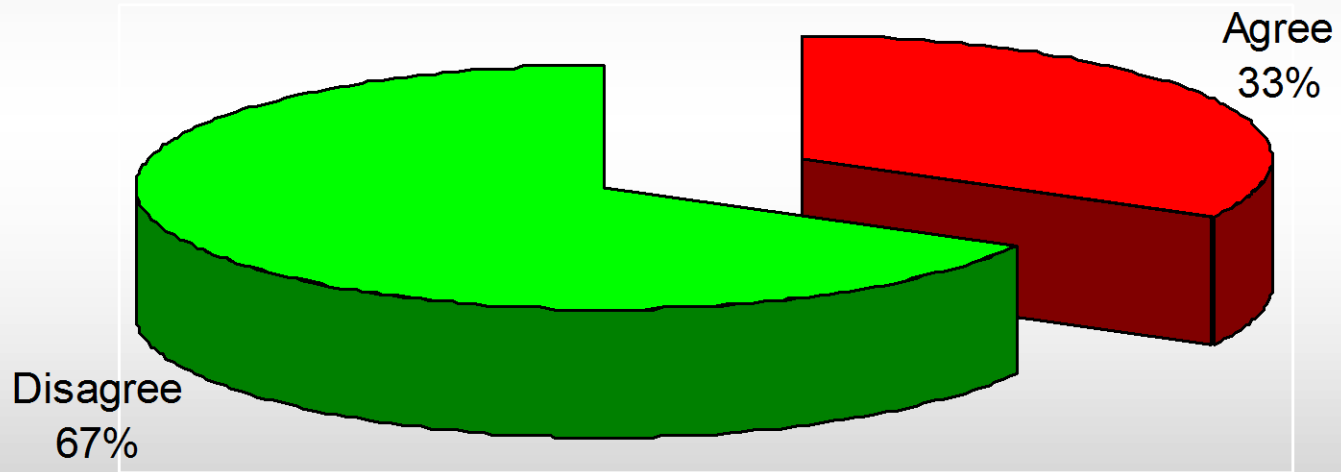


I can explain...

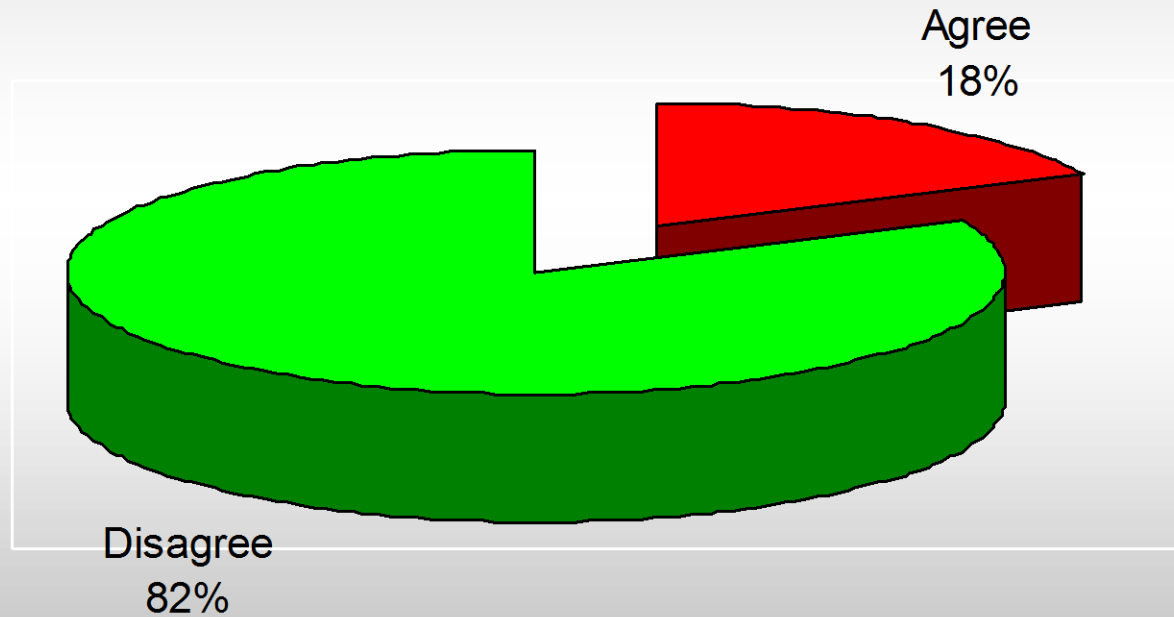
Careful driving does not prevent motor vehicle accidents



Lack of concentration rarely seen as issue in motor accidents



Denies accidents can be prevented by being careful and following all traffic regulations



Quality Attitude

This scale is an additional set of questions consisting of **18 items** designed to successfully help identify individuals with strong quality orientations

Quality Attitude

This scale is designed to provide additional information about an individual's quality-orientated traits and attitudes.

The QA scale measures four areas resulting in one overall score.

Quality Attitude

Quality Locus of Control:

The degree to which the individual takes responsibility for providing quality products and services.

Quality Skills:

Measures the extent to which the individual engages in work habits and behaviours that ensure a high level of quality and excellence in all of his/her pursuits.

Quality Attitude

Error Avoidance:

Measures the extent to which the individual is committed to detecting and avoiding errors in his/her work.

Continuous Improvement:

Measures how much the individual strives to continually improve his/her product and service offerings.

Quality Attitude

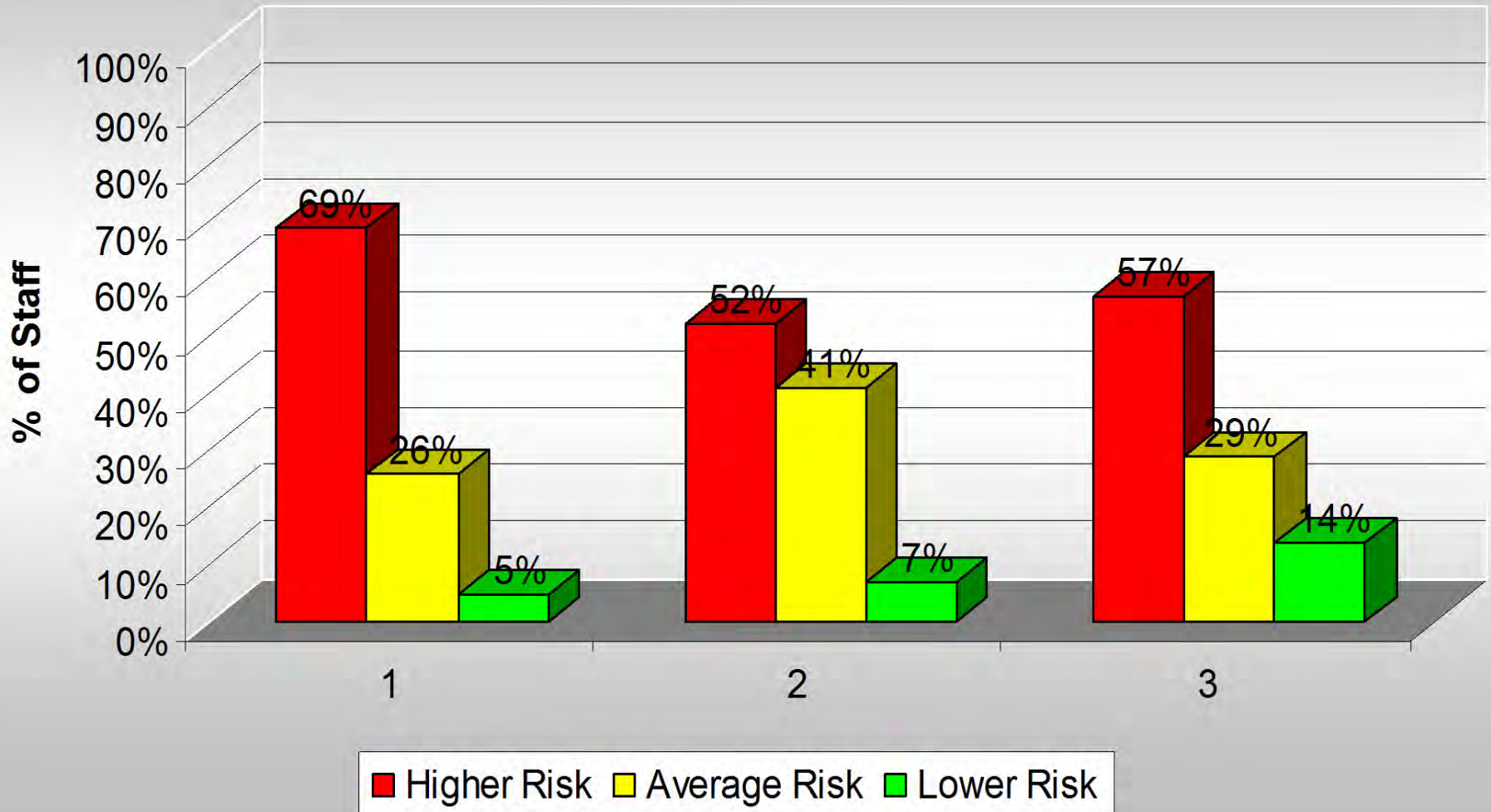
Possible descriptors –

- Less customer service orientated
- Doesn't double check work
- Lacks attention to detail and preciseness
- Gets upset when has to correct work
- Focuses on quantity rather than quality
- Relies on others to notice errors
- Blames others/equipment malfunctions/distractions etc.
- Many excuses for poor work
- Careless
- Takes short-cuts
- Wasteful of materials / time
- Loses / breaks tools
- Is less responsive to deadlines
- Poor equipment maintenance

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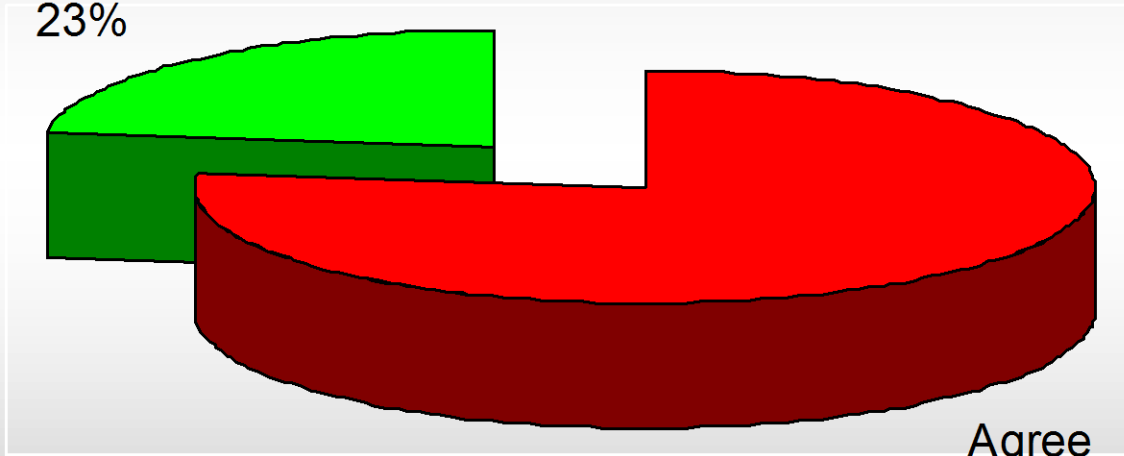
Quality Attitude



Errors are inevitable

Disagree

23%

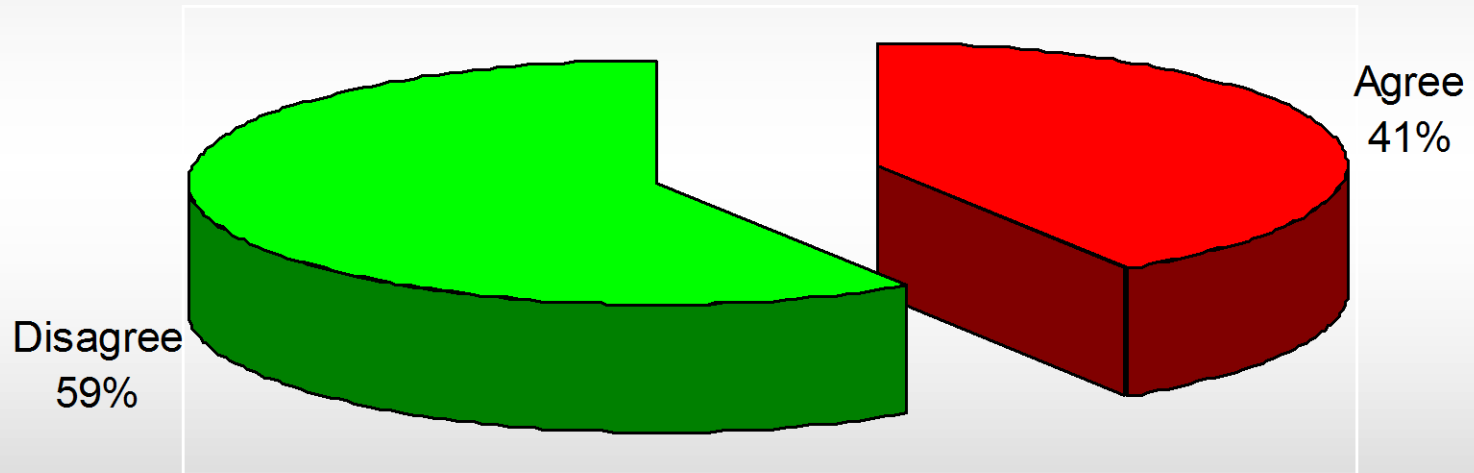


Agree

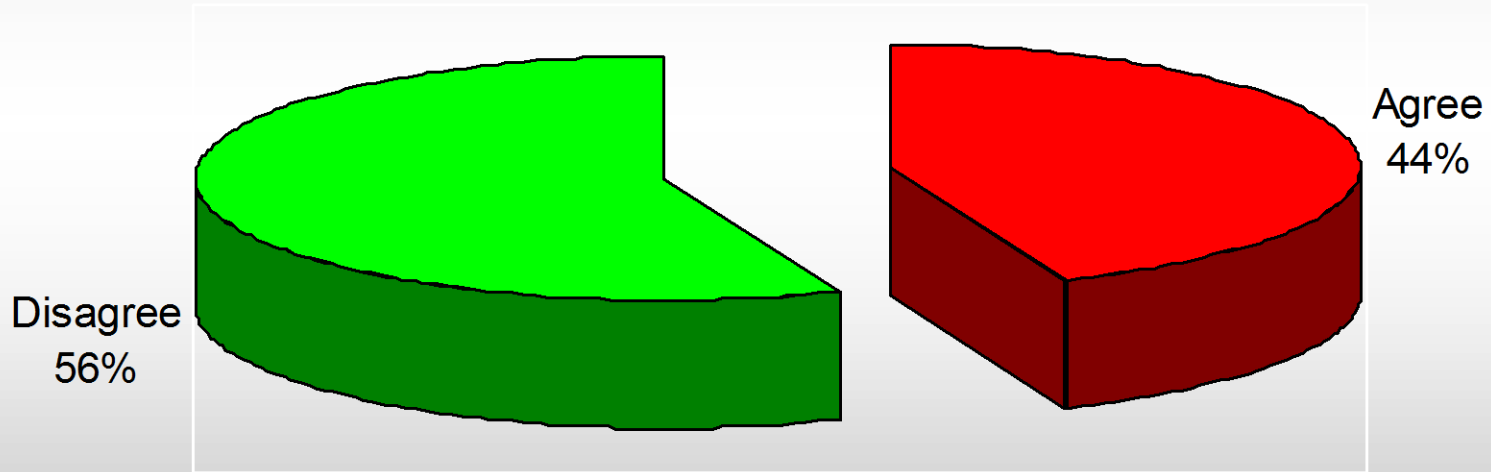
77%



Rejects own work being quality monitored

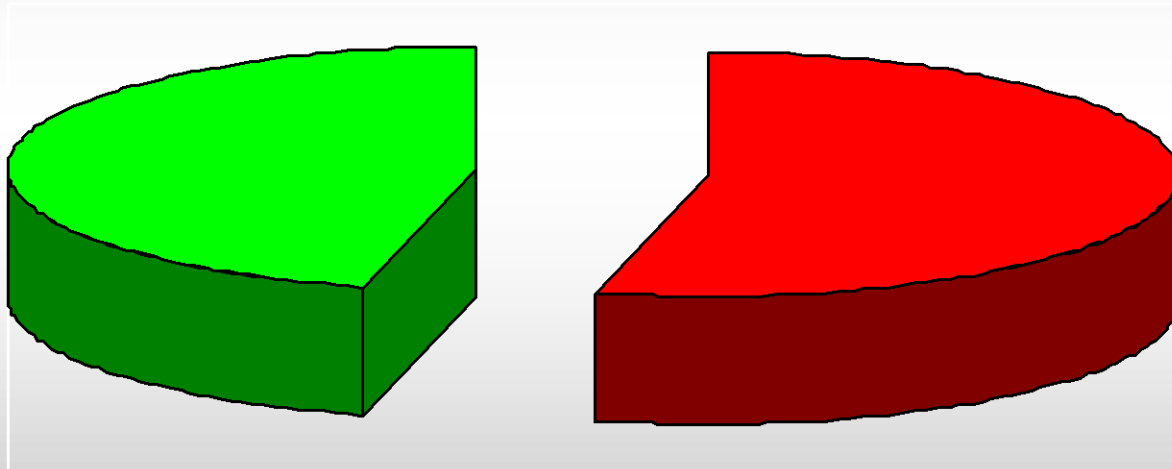


Accepts errors are unavoidable because employees are overworked



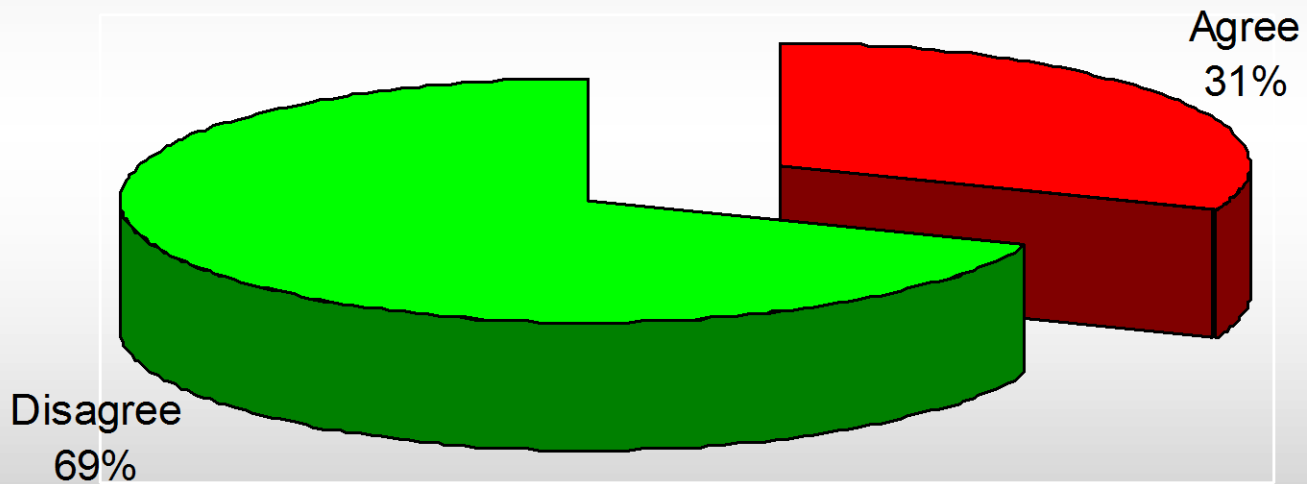
Supervisors who always expect accurate and error-free work are unrealistic

Disagree
46%

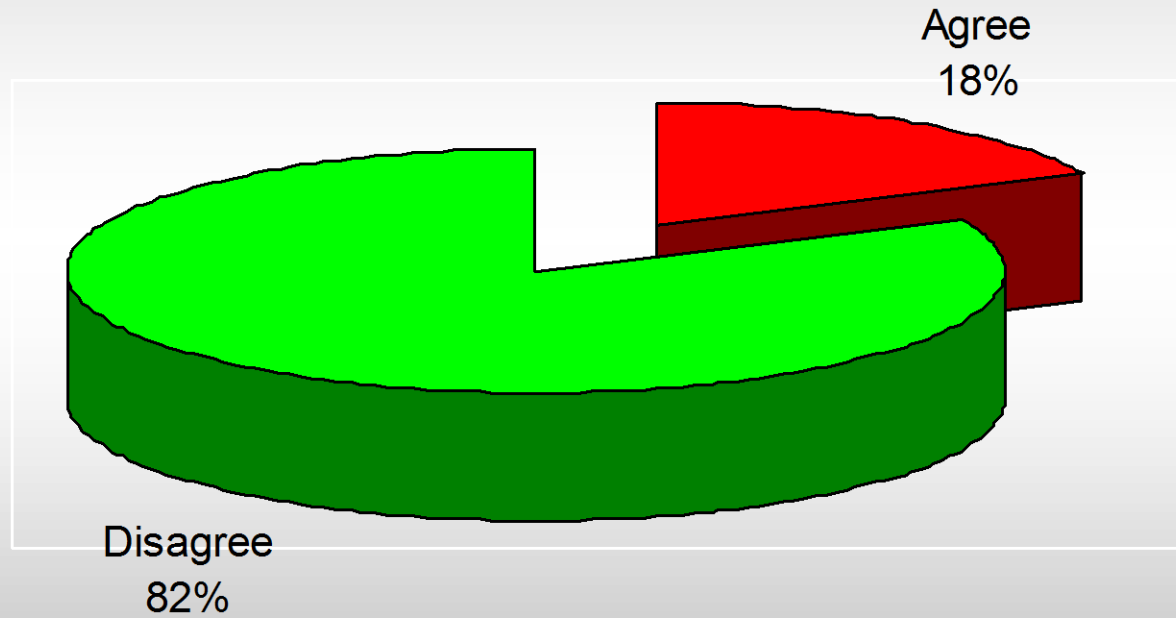


Agree
54%

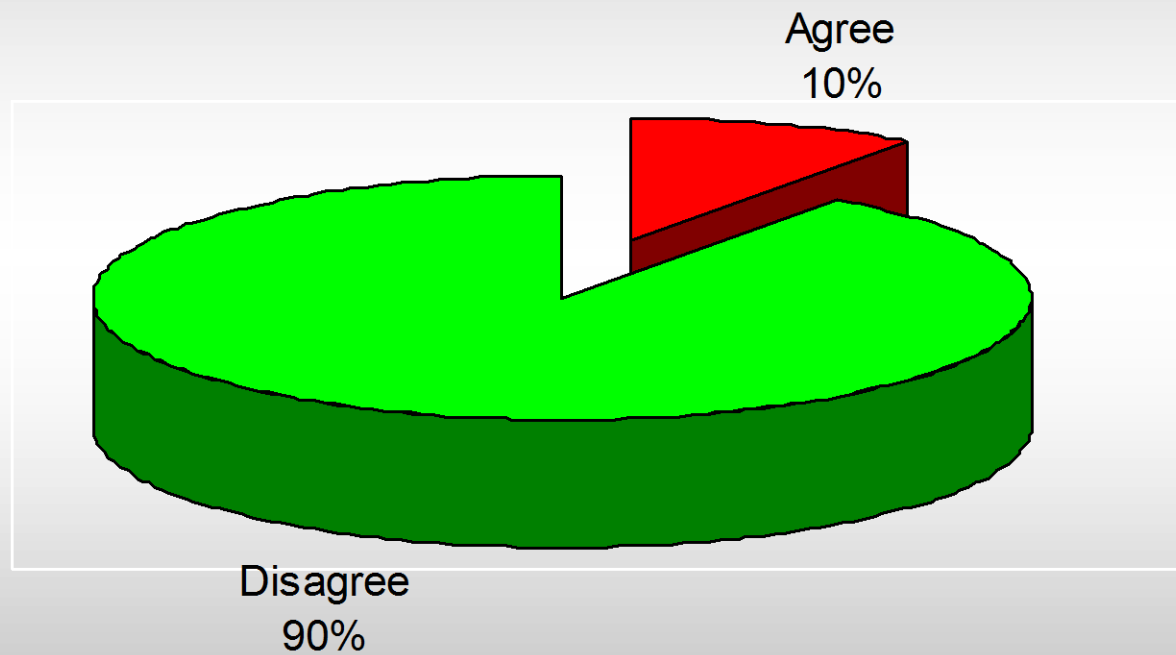
Accepts lack of employee commitment to improving quality



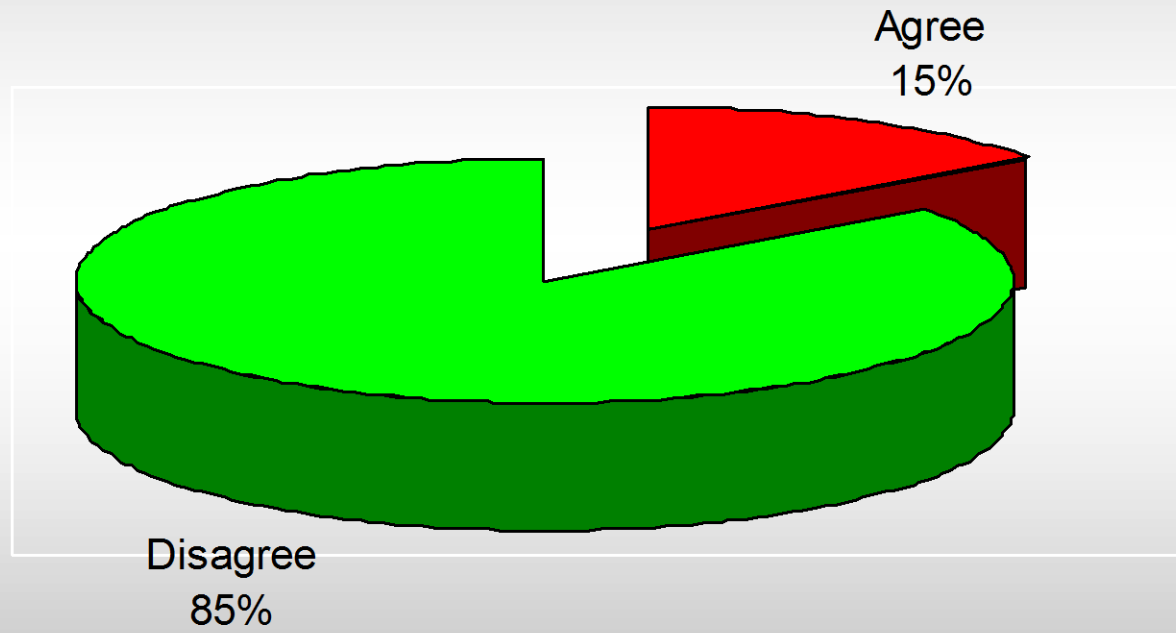
Willing to settle for second best



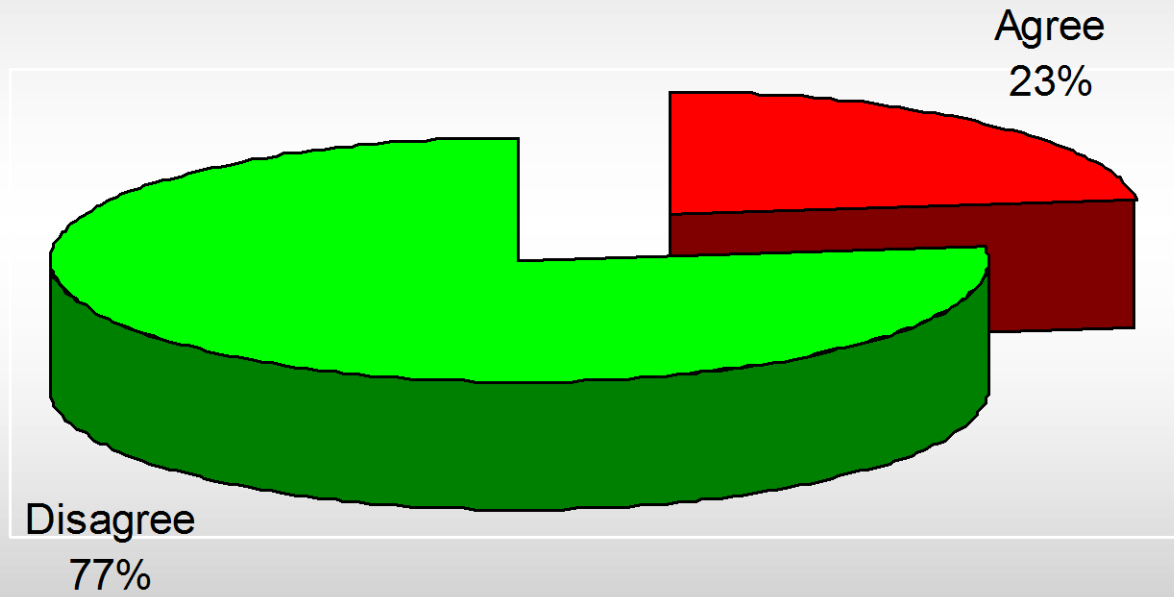
Doesn't double-check work after complete



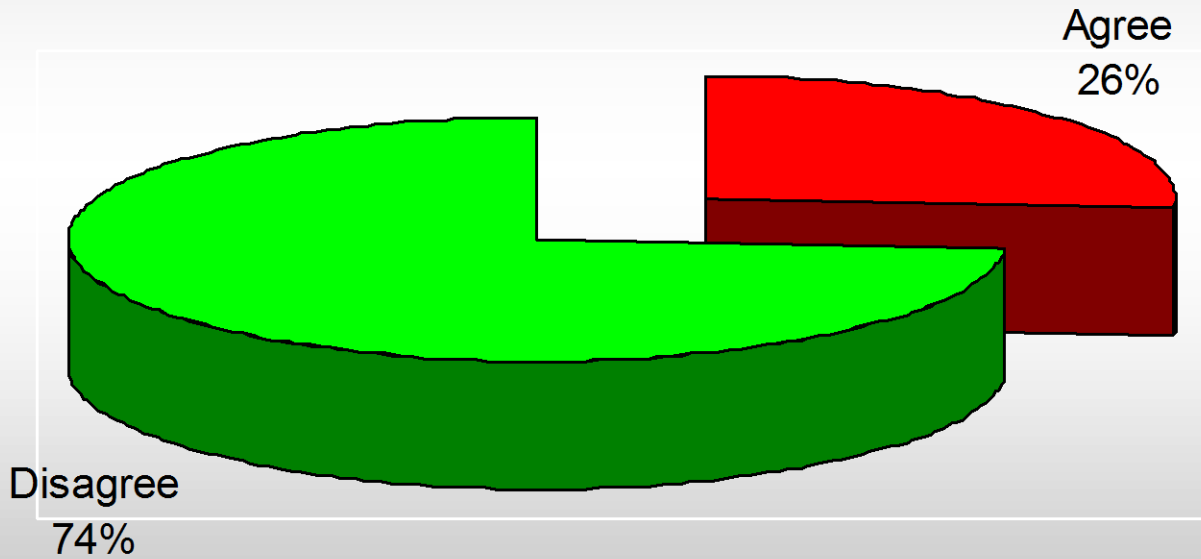
Makes more errors than other people



Small problems don't need fixing



Lacks a preference for jobs that require attention to detail



RESEARCH FACTS



1 accident

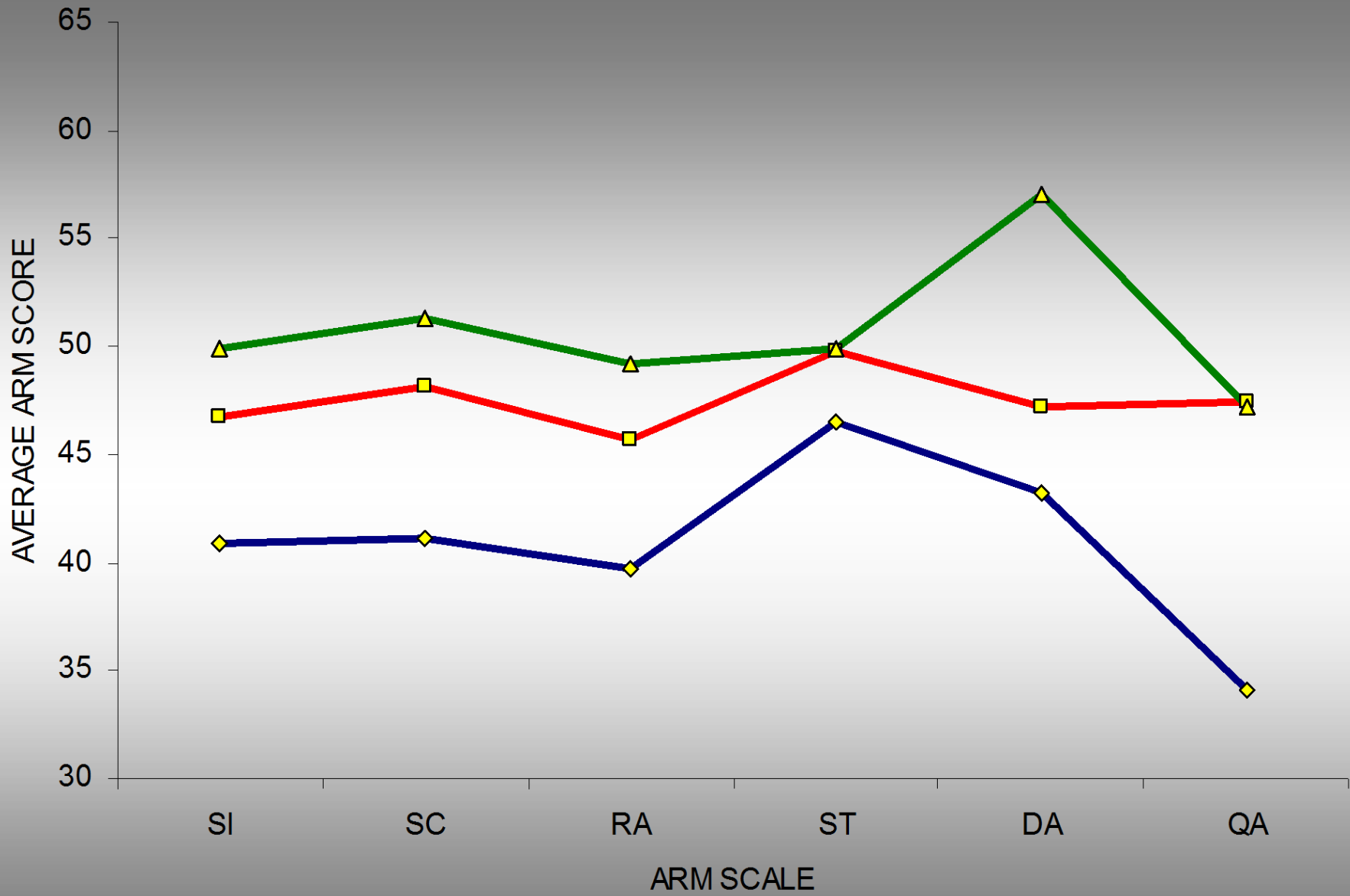
**1 hour lost time
injury**



3 accidents

**5.8 hours lost time
injury**

125 Drivers in NSW and Queensland (1992-93)

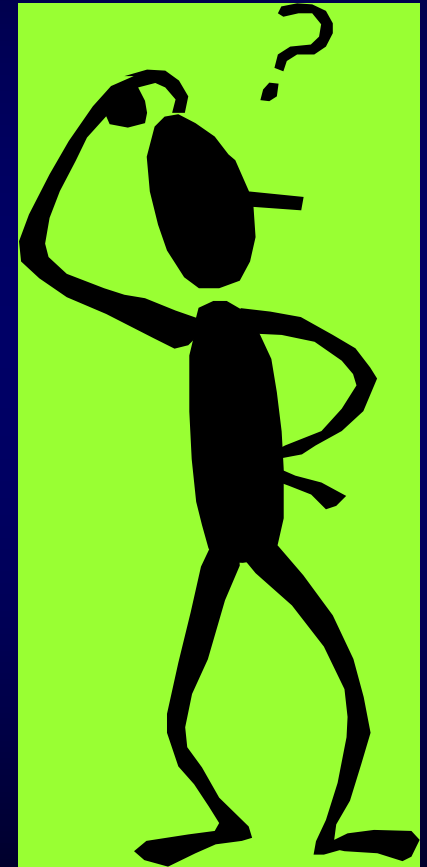


◆ Sample Ltd ■ Company A ▲ Company B

What is an Acceptable Standard?

Research shows:

- ✓ *People who score between 1 & 35 on the Safety Awareness Index have 75% of accidents and 85% of lost time injuries*



Solution 2.

“Advanced Safety & Quality Awareness Programme”

- ✓ **Development of safety, professional and quality attitudes**
- ✓ **Self esteem building**
- ✓ **Team building**
- ✓ **Personal stress profile**

Solution 2.

“Advanced Safety & Quality Awareness Programme”

- ✓ **Personal accident and injury risk rating comparison**
- ✓ **An individual safety rating of Safety Awareness**
- ✓ **An “Action Plan” to facilitate risk reduction**
- ✓ **Assists with personal performance, motivation and development**

Professional Attitude

- ✓ **Being Professional has nothing to do with career choice**
- ✓ **Being Professional has nothing to do with an Academic Qualification**
- ✓ **Being Professional has nothing to do with representing your region or country in sport**

✓ **Being Professional is a**

Quality Attitude or State of Mind





Lumley General Insurance

***Developing a Safety
and
Quality
Company Culture***

Safety Pays