

Safety Leadership in the Construction Industry

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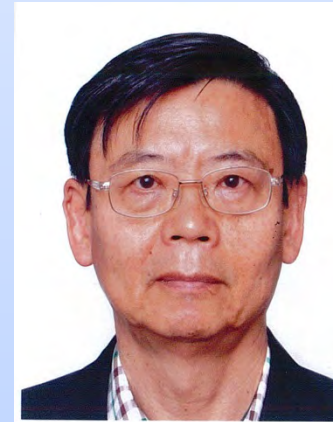
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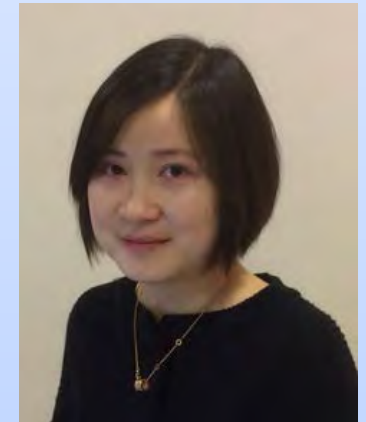
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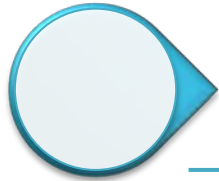
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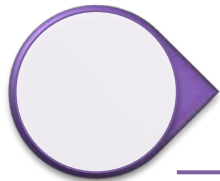
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Research Objectives



To classify practitioners of the construction industry into a number of levels based on their different roles in construction site safety.



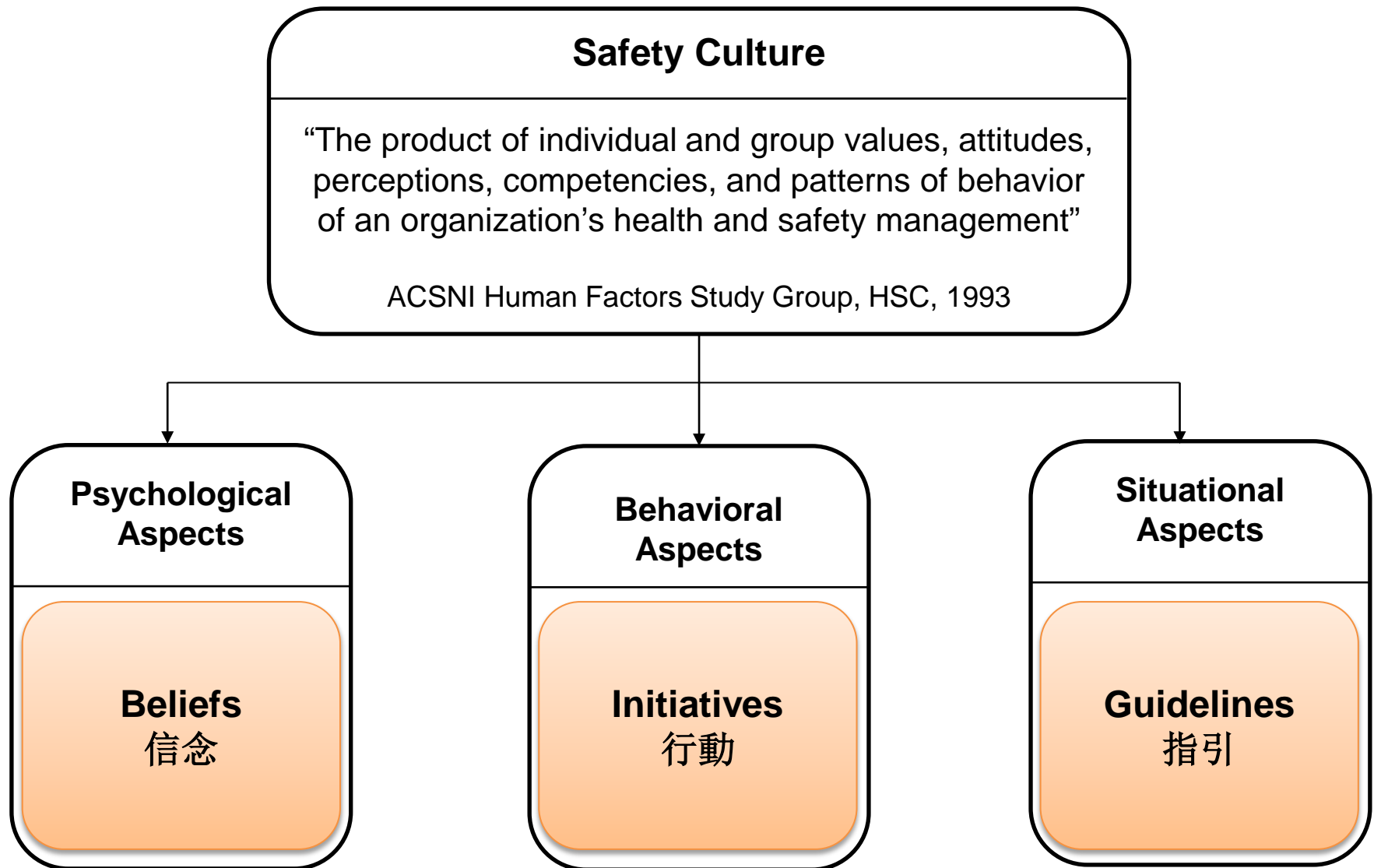
To establish guidelines on the conduct, actions or output to be performed in the day-to-day operation, which would render the doers becoming safety leaders for that level.



To gauge / benchmark the enhancement of safety culture in the construction industry after the Construction Safety Week 2014.

5 Levels of Construction Practitioners





Literature Review

Literature review

Government /Industry reports



Australian Constructors Association, Australia



Health & Safety Executive, UK



National Safety Council, USA

Books



Developing an effective safety culture : a leadership approach

Top-tier academic journals



Safety Science

...



Journal of Safety Research

Beliefs, Initiatives & Guidelines 信念、行動和指引

Beliefs 信念

- **Safety is an integral part in business performance**
安全是企業績效的組成部分
- **All accidents can be prevented**
所有的事故都是可以預防的
- **The company shoulders a social responsibility on safety**
企業對於安全肩負著社會責任
- **Everyone shares a responsibility on safety**
每個人對安全都負有責任

Initiatives 行動

- **Formulates safety policies to reflect the beliefs**
制定安全政策，反映企業理念
- **Provides resources to support safety**
提供資源來保障安全
- **Creates and insist on a safe company culture**
建設及堅持企業安全文化
- **Leads by example**
以身作則

Guidelines 指引

- **Ensure statutory compliance with government health and safety regulations**
確保制定的規範符合政府健康安全法規
- **Establish a clear mission, safety responsibility system, and goal in order to set standards of behaviour for employees**
建立企業使命、安全責任系統、以及目標，從而為員工制定行為準則
- **Encourage contingent incentives and punishments**
鼓勵依情況而定的激勵和懲罰措施
- **Provide consistently resources for a comprehensive safety program**
為全面安全計劃提供持續的資源
- **Ensure that adequate resources are provided to support best safety practices**
確保足夠資源提供給最佳安全實踐
- **Be clear and transparent when dealing with safety issues**
處理安全問題時要保持清晰和透明
- **Emphasize the importance of proactive action**
強調主動行為的重要性
- **Review the safety process regularly**
定期檢查影響安全生產的操作過程
- **Develop trust worthiness in the employee-manager relationship**
提高員工和管理層關係的信任度
- **Work with subordinates to reinforce the corporate safety commitment**
與下屬協作來加強企業安全承諾

Data Collection

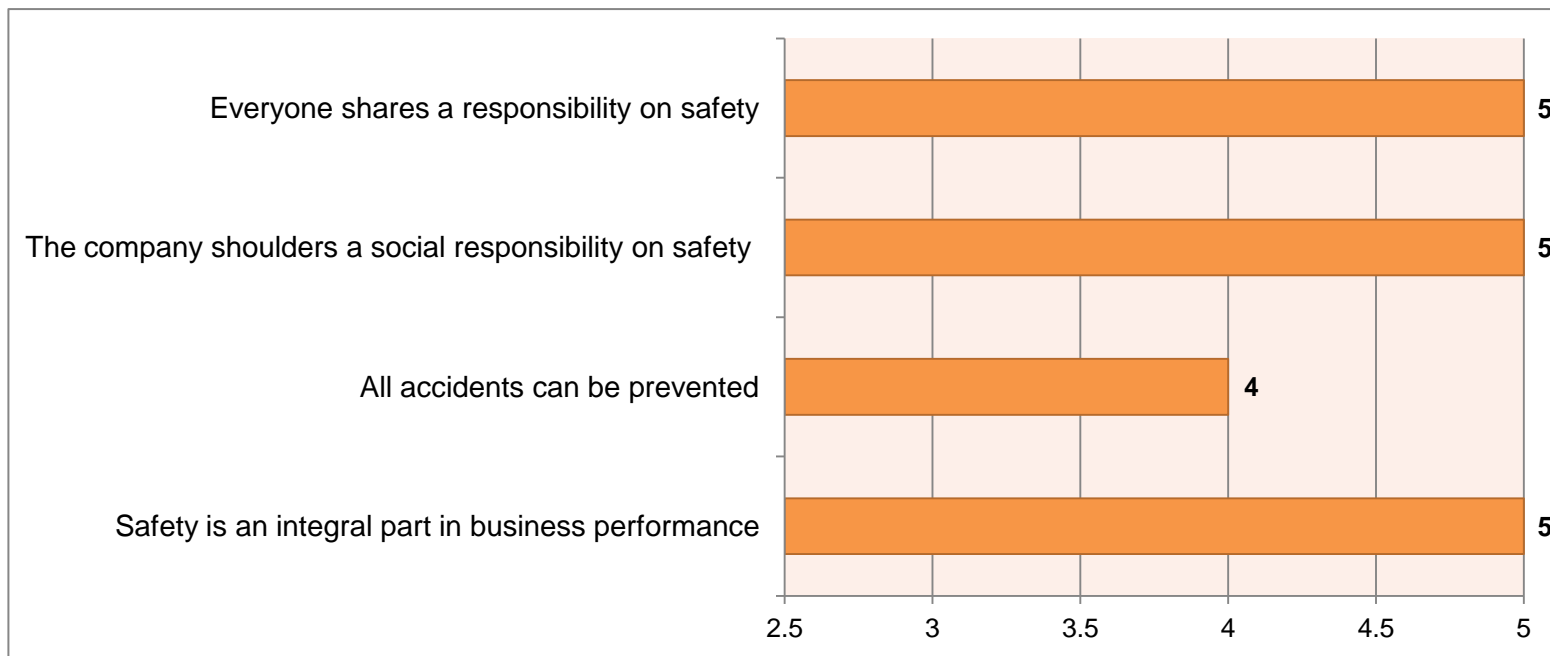
	Target	Completed
Level 1 CEO 公司管理層	4	6
Level 2 Project Management Team 工程策劃	6	6
Level 3 Supervisors and Foremen 工地監督	8	8
Level 4 Trade-specific supervisors 行業領班	12	28
Level 5 Frontline workers 前線工友	200	232

Data Collection



Research Findings

Awareness & Consciousness
意識與認知



Average score = 4.75

Actions & Behaviors
行動與行為



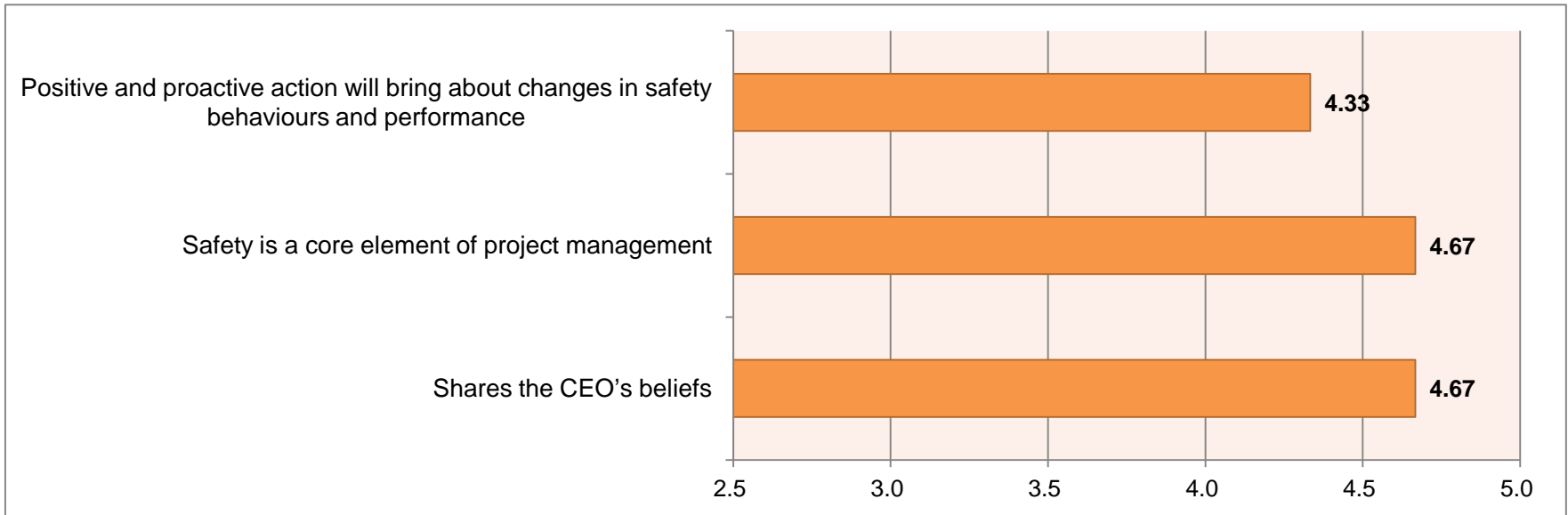
Average score = 4.70

Importance of factors contributing to positive safety culture
促進積極安全文化的重要因素

	Rank
❖ Provide resources to support safety 為保障安全提供人力、物力等資源	1
❖ Formulate safety policies to reflect the beliefs 制定反映企業理念的安全政策	2
❖ Create and insist on a safe company culture 建設及深化企業安全文化	3
❖ Lead by example 以身作則	4
❖ Establish reward and punishment system for employees 建立賞罰機制	5
❖ Implement safety education and training programs 執行安全教育培訓計劃	5

Sample size = 6

Awareness & Consciousness 意識與認知



Average score = 4.56

Actions & Behaviors 行動與行為

Level 2 Project Management Team 工程策劃

Sample size = 6



Average score = 4.57

2.5 3.0 3.5 4.0 4.5 5.0
20

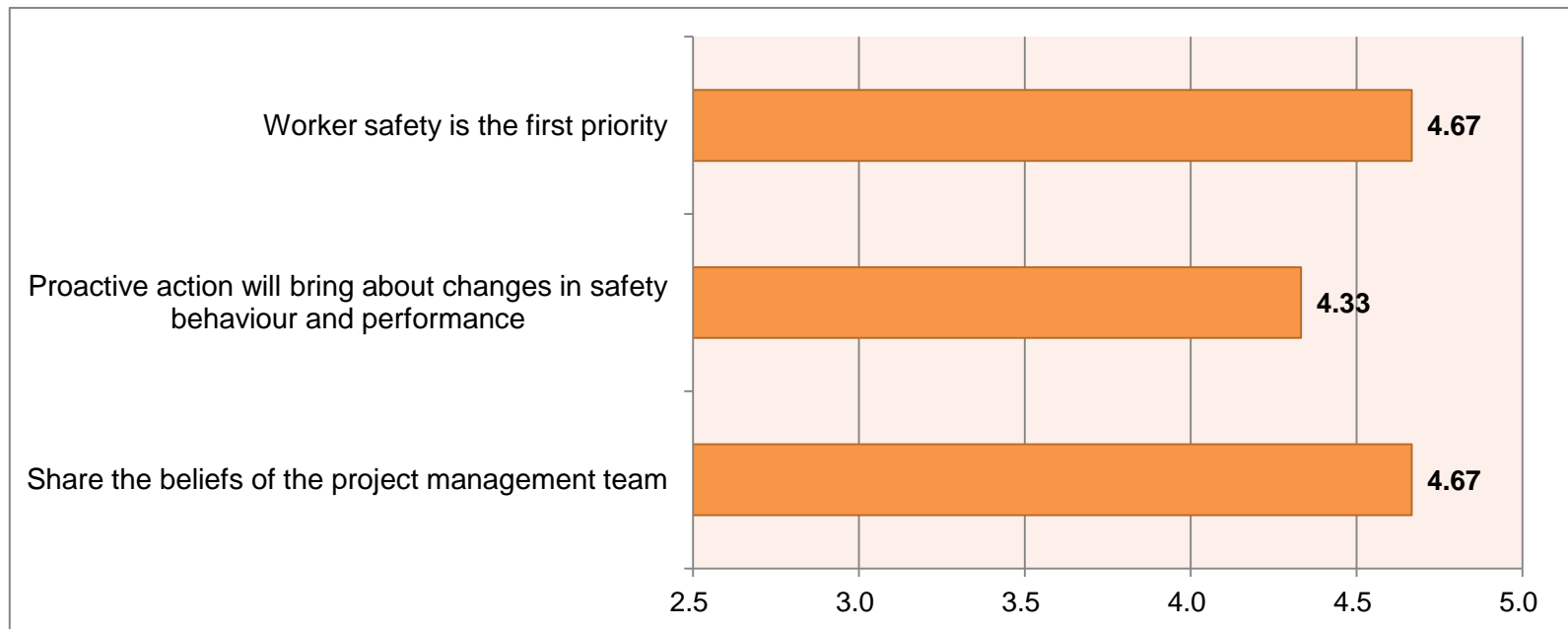
Importance of factors contributing to positive safety culture
促進積極安全文化的重要因素

	Rank
❖ Enhances safety knowledge 加強安全知識	1
❖ Instils respect and commands authority 灌輸尊重和命令授權的理念	2
❖ Sets a good personal example 樹立好榜樣	3
❖ Establish reward and punishment system for employees 建立賞罰機制	4
❖ Incentivize, recognize, and reward safety behaviour 激勵、認可和獎勵安全行為	5
❖ Participates in safety activities 參與安全活動	6

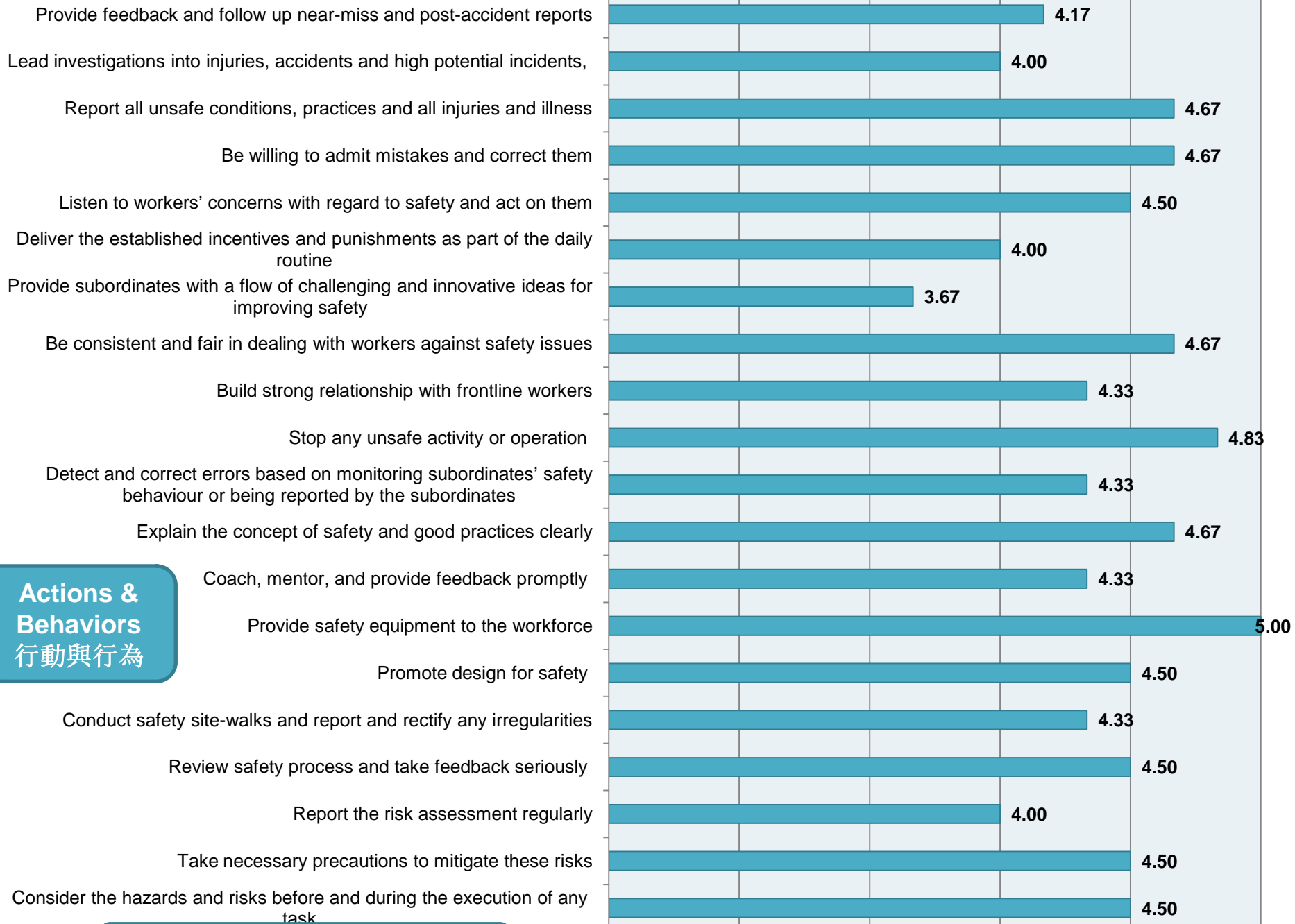
Level 3 Supervisors and Foremen 工地監督

Sample size = 8

Awareness & Consciousness 意識與認知



Average score = 4.56



Actions & Behaviors
行動與行為

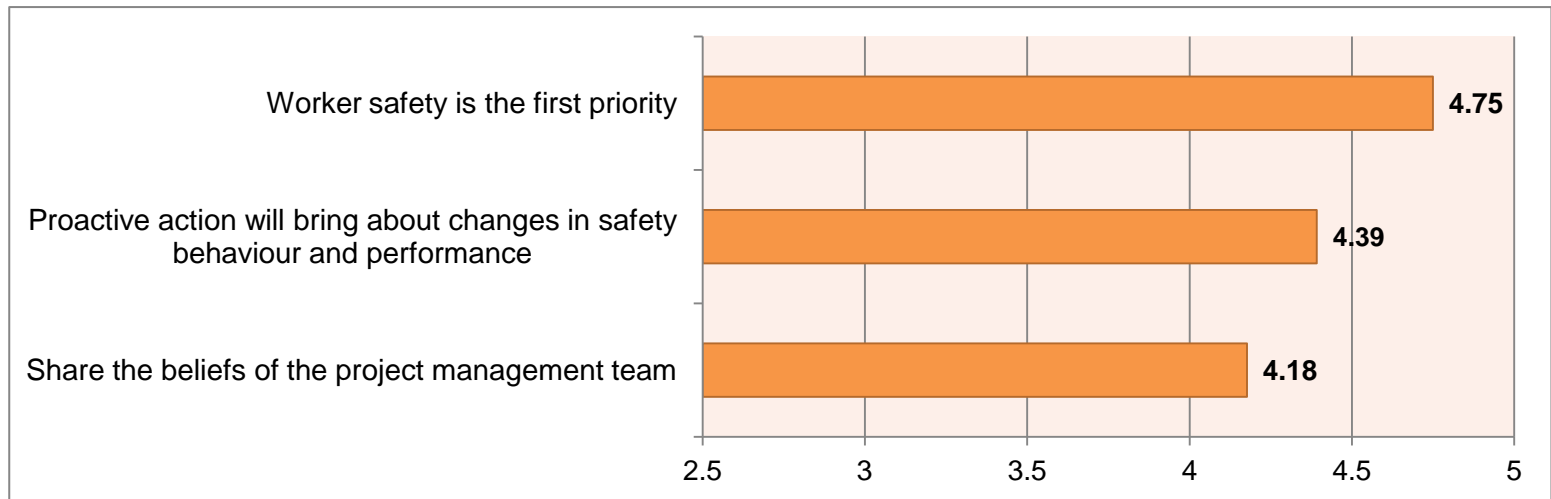
Average score = 4.41

Importance of factors contributing to positive safety culture 促進積極安全文化的重要因素

	Rank
❖ Carry out risk assessments before work 開展工作前的風險評估	1
❖ Give safety instructions and information along with work instructions 提供安全說明和信息，以及作業指引	2
❖ Take immediate action against those who deviate from safety working practice, or misbehave in safety 採取即時行動來應對來自安全工作實踐中的偏離或是不安全行為	3
❖ Set a good personal example 樹立榜樣	4
❖ Participate in safety activities 參與安全活動	5
❖ Report near-misses and identify measures to prevent reoccurrence 報告未遂事故，並制定措施來防止再次發生	5

Sample size = 28

Awareness & Consciousness 意識與認知

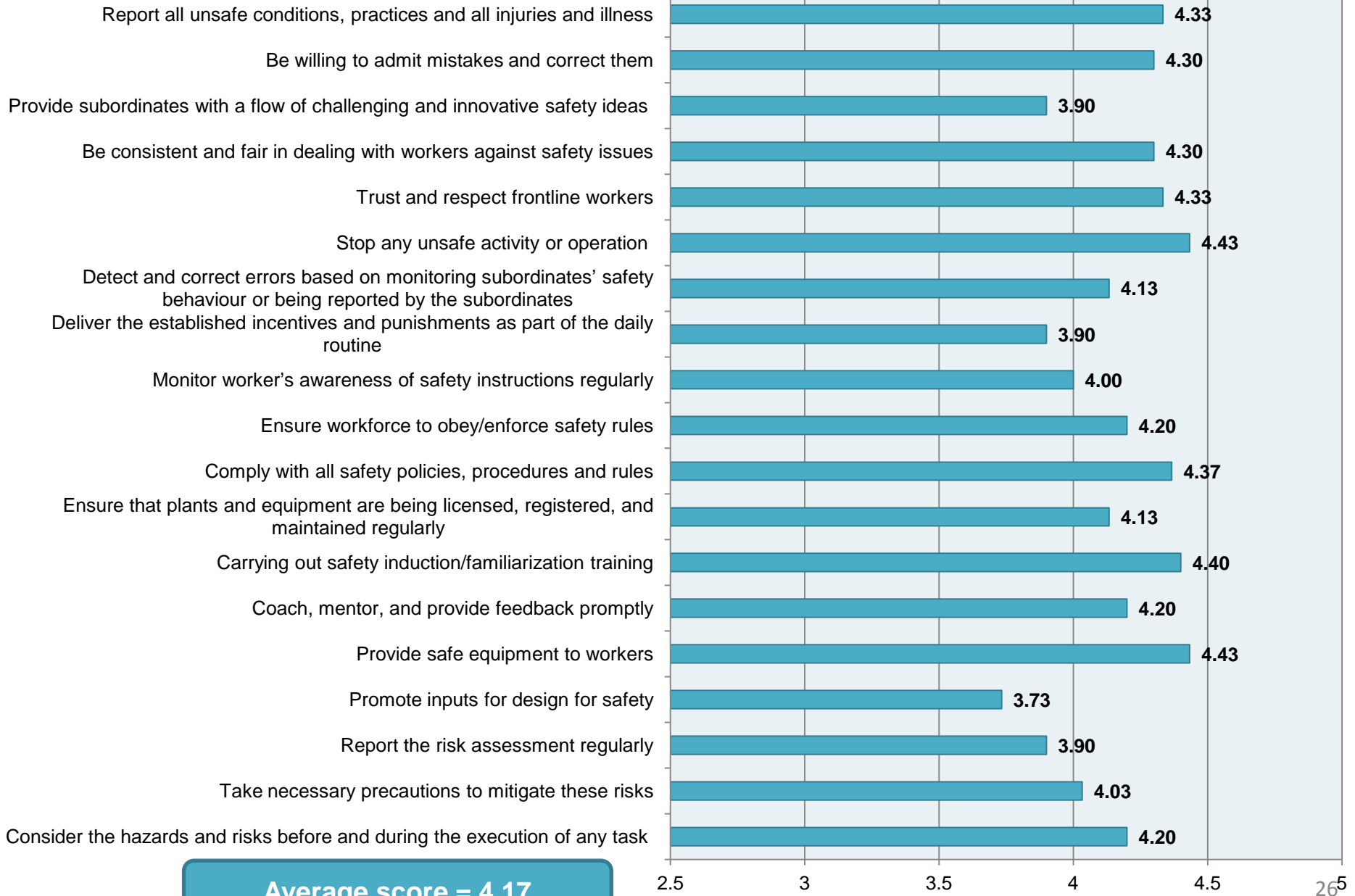


Average score = 4.44

Actions & Behaviors 行動與行為

Level 4 Trade-specific Supervisors 行業領班

Sample size = 28



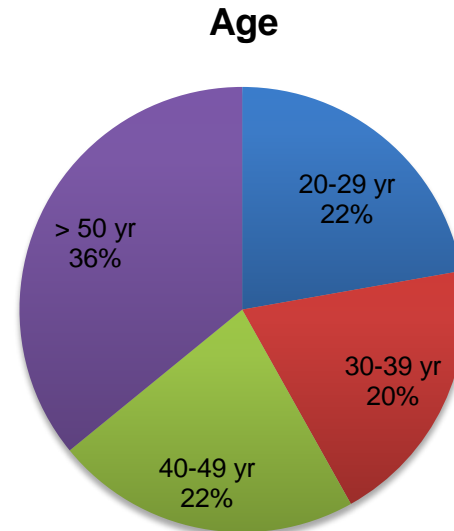
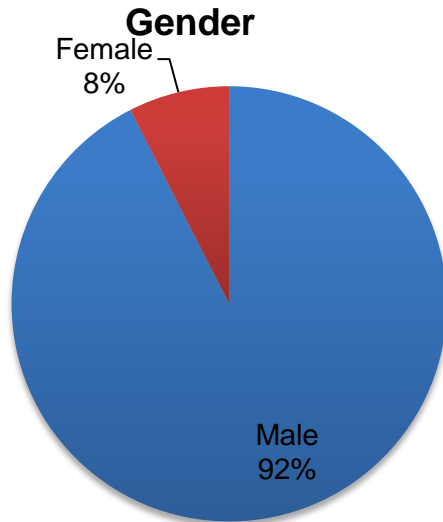
Average score = 4.17

Importance of factors contributing to positive safety culture 促進積極安全文化的重要因素

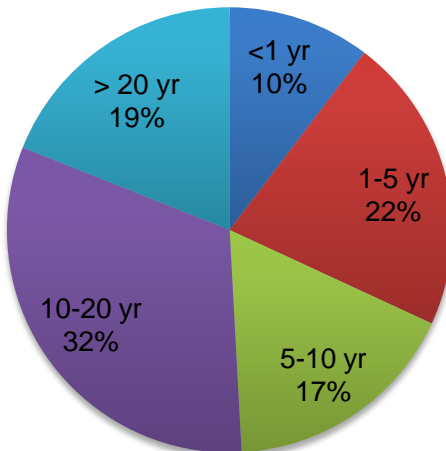
	Rank
❖ Carry out risk assessments before work 開展工作前的風險評估	1
❖ Comply with safety instructions issued by the principal contractor 遵守總承包商發出的安全須知	2
❖ Take immediate action against those who deviate from safety working practice, or misbehave in safety 採取即時行動來應對來自安全工作實踐中的偏離或是不安全行為	3
❖ Give safety instructions and information along with work instructions 提供安全說明和信息，以及作業指導書	4
❖ Set a good personal example 樹立榜樣	5
❖ Give warning and take disciplinary actions to workers with misbehaviours 對工人的不安全行為提出警告並給予紀律處分	6
❖ Participate in safety activities 參與安全活動	7
❖ Report near-misses and identify measures to prevent reoccurrence 報告未遂事故，並制定措施來防止再次發生	8

Level 5 Frontline workers 前線工人

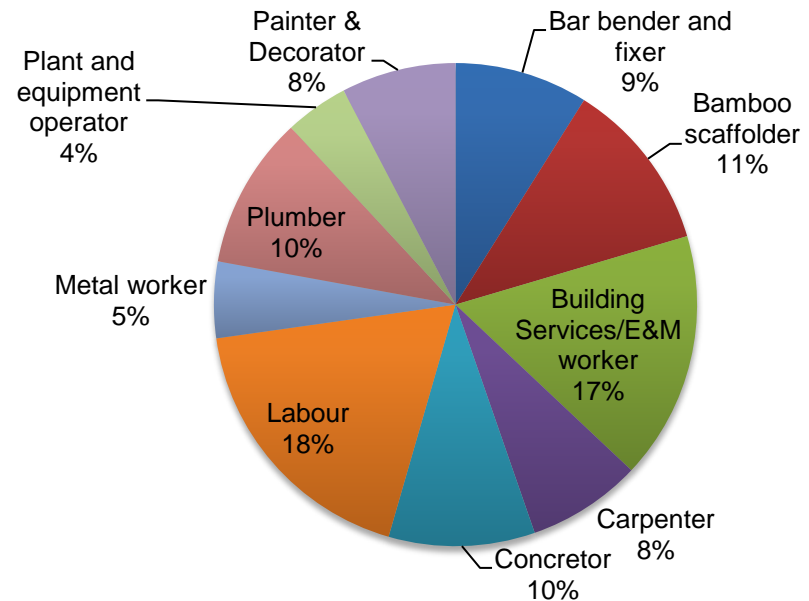
Sample size = 232



Years of experience

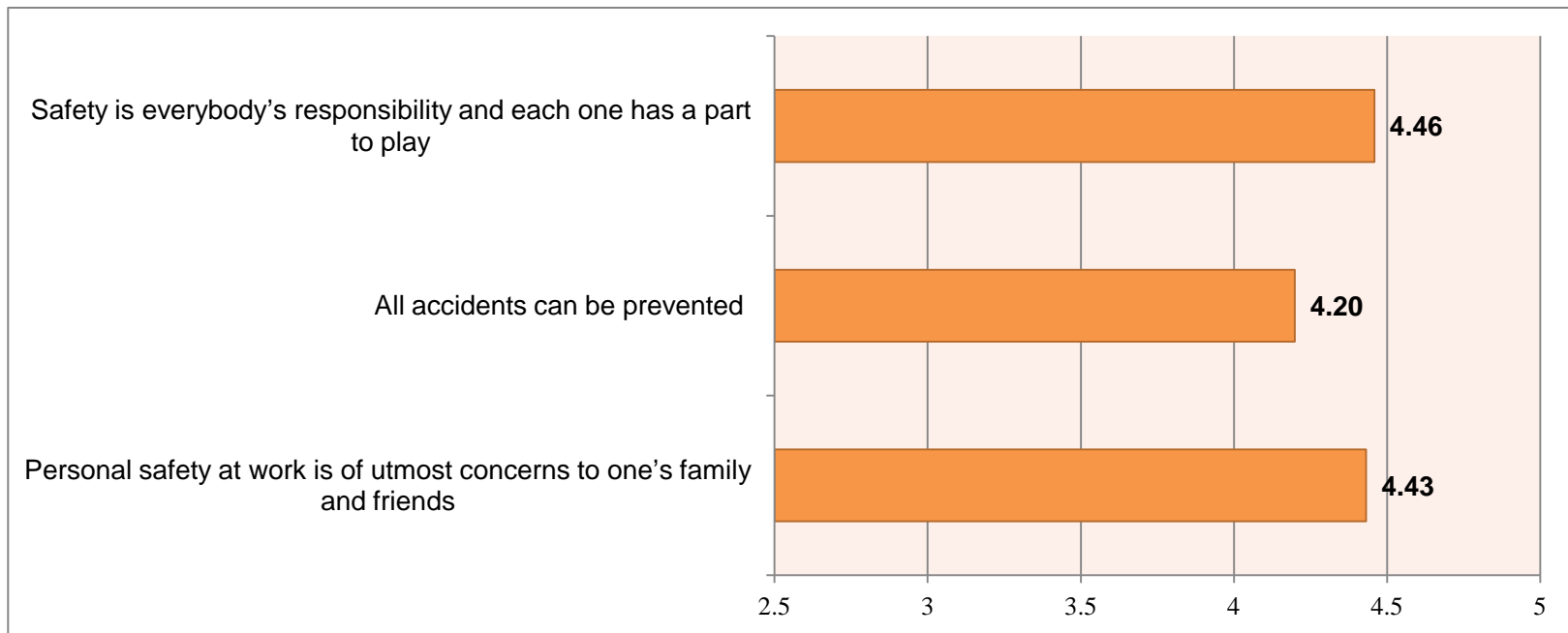


Trade



Sample size = 232

Awareness & Consciousness 意識與認知



Average score = 4.36

Sample size = 232

Actions & Behaviors 行動與行為



Average score = 4.09

Summary of Score

	Awareness & Consciousness 意識與認知	Actions & Behaviors 行動與行為
Level 1 CEO 公司管理層	4.75	4.70
Level 2 Project Management Team 工程策劃	4.56	4.57
Level 3 Supervisors and Foremen 工地監督	4.56	4.41
Level 4 Trade-specific Supervisors 行業領班	4.44	4.17
Level 5 Frontline worker 前線工友	4.36	4.09



Areas for Improvement

(Score < 4)

	Areas of Concern
Level 2 工程策劃	<ul style="list-style-type: none">➤ Drive for the flexibility and adaption of safety management 達成安全管理的靈活性和適應性
Level 3 工地監督	<ul style="list-style-type: none">➤ Provide subordinates with a flow of challenging and innovative ideas for improving safety 持續為下屬提供具有挑戰性的創新理念, 旨在提高安全
Level 4 行業領班	<ul style="list-style-type: none">➤ Promote inputs for design for safety 為安全設計出謀劃策➤ Deliver the established incentives and punishments as part of the daily routine 將相應的鼓勵與懲罰作為日常工作的一部分➤ Provide subordinates with a flow of challenging and innovative ideas for improving safety 持續為下屬提供具有挑戰性的創新理念, 旨在提高安全
Level 5 前線工友	<ul style="list-style-type: none">➤ Make suggestions and initiate new ideas to supervisor proactively 提出有關安全問題的新建議和新理念➤ Participate in safety activities 參與安全活動➤ communicate with fellow-workers on health, wellbeing and safety issues regularly 定期與工友溝通健康安全方面的信息

Benefits of the safety leadership scheme

	Frequency
❖ Minimize the work-related accidents on site 降低地盤安全事故的發生	Level 1(3) + Level 2 (2) + Level 3 (2) + Level 4 (2)
❖ A powerful influence on promoting the safety culture as initiated by the government 政府具有影響力推動安全文化的滲透及普及	Level 1(2) + Level 2 (1) + Level 3 (2) + Level 4 (3)
❖ Set clear expectation and be measurable 為業界制定清晰明確的信念、行動及指引	Level 1(2) + Level 2 (2)
❖ Improve the image of the construction workers 提升從業人員的形象	Level 1(2) + Level 2 (1) + Level 3 (1)
❖ Pay attention to the health and safety need of the frontline workers 留意到工人的健康安全需求	Level 1(1) + Level 2 (1) + Level 3 (2) + Level 4 (3)
❖ Better understanding about the current situation and safety performance in the industry 更好得了解建造業安全文化的現狀	Level 1(1) + Level 2 (1) + Level 3 (2)
❖ Improve construction labour productivity 有利於提高建築工人的工作效率	Level 1(1) + Level 2 (1)

Difficulties of its implementation

	Frequency
❖ How to mobilize the sub-contractors 如何調動中小企業	Level 1(5) + Level 2 (2)
❖ Frontline workers' level of understanding / cognitive ability about safety is relatively low, which required longer time to improve 地盤工人對安全的認知水平偏低, 有待提高	Level 1(2) + Level 2 (2) + Level 3 (2) + Level 4 (2)
❖ Increase cost of the investment (e.g., sub-contractors are unwilling to invest in safety tools / equipment because these safety measures are non-productive from their points of view) 增加投資成本	Level 1(2) + Level 2 (2) + Level 3 (1) + Level 4 (1)
❖ Punishment is not highly implemented as punishment will result in negative action and impact 懲罰機制不成熟	Level 1(1) + Level 2 (2) + Level 3 (2)
❖ Tight workforce supply is creating problem with the worker's cooperation particularly for safety 建造業從業人員的短缺	Level 1(1) + Level 2 (1)
❖ Cooperation of the trade-specific foremen and frontline workers (e.g., sub-contractors foremen may not willing to follow the instruction given by the main contractor) 需要行業領班/前線工人的配合	Level 2 (2) + Level 3 (2)

Conclusion & Recommendations

1

Five (5) levels of construction practitioners has been identified.
確定了建造業從業人員的五個層面

2

Beliefs, initiatives, guidelines for each level of construction practitioners have been established. 構建了建造業各個層面從業人員的信念、行為及指引

3

In general, the safety awareness and behaviors in each level of construction practitioners are satisfactory. 通過調查發現，建造業各層面的從業人員在安全意識行為方面大致達到滿意水平

4

Construction practitioners in lower levels tend to have a comparatively lower score for safety awareness and behaviours. 建造業從業人員的安全意識行為得分隨管理層次的下降而有所降低。

5

Training, instructions, and remarks have to be given for further safety improvement. 通過安全教育、培訓、及指導的方式，提高建造業各層面從業人員安全意識與行為

6

Similar studies should be carried out in regular basis to monitor the enhancement of safety culture in the construction industry. 建議定期進行類似研究，以監測建造業安全文化水平



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