

## 1. Human Factors

Table S1 Construction personnel's perception of worker's physical and physiological

Item	Mean value	Mean value scale	Standard deviation
Unsuitable height	2.48	Slightly agree	1.051
Unsuitable body size	2.67	Slightly agree	0.999
Lack of strength	3.15	Slightly agree	0.984
Lack of stamina	3.31	Slightly agree	0.939
Suffering from extreme fatigue	3.89	Agree	0.739
Poor health condition	3.87	Agree	0.866
Workers are physically disabled	3.28	Slightly agree	1.121
Workers are intoxicated or under drug effects	3.94	Agree	1.069
Workers are under stress or tension	4.03	Agree	0.787

Table S2 Construction personnel's perception of worker's experience

Item	Mean value	Mean value scale	Standard deviation
Lack of knowledge and information	4.09	Agree	0.720
Too much knowledge and information (leading towards confusion)	2.99	Slightly agree	1.000
Lack of skills in conducting tasks	3.97	Agree	0.767
Lack of experience and training in conducting tasks	4.12	Agree	0.711
Unqualified to do tasks	3.94	Agree	0.851
Workers experienced occupational accidents and illnesses	3.17	Slightly agree	0.882
Workers experienced near-miss	3.15	Slightly agree	0.840
Workers never experienced occupational accidents and illnesses	3.02	Slightly agree	0.927
Highly experienced workers causing neglecting of OSH aspect	3.25	Slightly agree	1.130
Difficulties in language and communication	3.83	Agree	0.899
Problems with reading and counting	3.43	Agree	1.026

Table S3 Construction personnel's perception of worker's attitude

Item	Mean value	Mean value scale	Standard deviation
Workers do not prioritize company performance and reputation	3.38	Slightly agree	0.934
Workers do not prioritize OSH policy	3.71	Agree	0.952
Workers do not prioritize safe working procedures	4.26	Strongly agree	0.699
Workers satisfy with their individual performance	3.58	Agree	0.879
Workers are highly overconfident	3.71	Agree	0.902
Workers underestimate occupational accidents and illnesses risks	4.12	Agree	0.868
Workers are stubborn, arrogant, selfish, or showing off	4.01	Agree	0.867
Workers with a defeatist attitude	3.18	Slightly agree	0.830
Workers are hesitant or having difficulty in making decisions	3.42	Agree	0.734
Workers prioritizing in fulfilling basic needs	3.41	Agree	0.869
Workers prioritizing in fulfilling psychological needs	3.25	Slightly agree	0.856
Workers prioritizing in fulfilling self needs	3.21	Slightly agree	0.860

Table S4 Construction personnel's perception of worker's behavior

Item	Mean value	Mean value scale	Standard deviation
Error due to lack of focus/distracted	3.98	Agree	0.762
Error due to complicated procedures	3.47	Agree	0.882
Lengthy period for the tasks	3.51	Agree	0.909
Error due to wrong reasons/objectives	3.63	Agree	0.808
Workers following wrong procedures	3.95	Agree	0.756
Unsafe working practices pursuant to the routine of a group/organization	3.89	Agree	0.718
Workers violate the rules due to limited time	3.75	Agree	0.800
Workers violate the rules due to pressure	3.79	Agree	0.764
Workers violate the rules due to unexpected problems	3.82	Agree	0.742

## 2. Worksite factors

Table S5 Construction personnel's perception of worksite condition

Item	Mean value	Mean value scale	Standard deviation
Noise contributing to hearing illnesses	3.98	Agree	0.747
Noise contributing to communication issues	4.12	Agree	0.655
Insufficient lighting	3.92	Agree	0.817
Ventilation issues leading to difficulty in breathing and sighting in open areas	3.52	Agree	0.925
Difficulty in breathing and sighting in closed areas	3.89	Agree	0.760
Extreme heat from hot weather	3.89	Agree	0.685
Raining	3.88	Agree	0.700
Unsafe facilities (electrical, hydraulic, etc.)	4.12	Agree	0.705

Table S6 Construction personnel's perception of worksite arrangement

Item	Mean value	Mean value scale	Standard deviation
Poor level of cleanliness and tidiness	4.18	Agree	0.724
No designated area for waste dumping/management	4.02	Agree	0.757
No proper disposing schedule for waste	4.03	Agree	0.725
Working path blocked	4.17	Agree	0.684
Impounding surface and working path	3.94	Agree	0.785
Slippery surface and working path	4.05	Agree	0.703
Poor equipment, material, and waste arrangements	4.07	Agree	0.739
Arrangement of equipment, material, and waste blocking working areas	4.18	Agree	0.631

Table S7 Construction personnel's perception of equipment and material

Item	Mean value	Mean value scale	Standard deviation
Construction materials unsuitable with construction tasks	3.40	Slightly agree	1.024
Construction materials in poor condition	3.49	Agree	0.958
Construction materials give a negative impact on a health condition	3.53	Agree	0.942
Equipment and tools unsuitable with construction tasks	3.68	Agree	0.932
Equipment and tools in poor condition	3.88	Agree	0.784
Equipment and tools lack safety features	4.05	Agree	0.791

Table S8 Construction personnel's perception of the construction task

Item	Mean value	Mean value scale	Standard deviation
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Various tasks in progress simultaneously	3.65	Agree	0.776
Workers need to work at various locations	3.62	Agree	0.761
Workers need to work with various people simultaneously	3.55	Agree	0.836
Workers need to work at height	4.04	Agree	0.866

### 3. Management and organization factors

Table S9 Construction personnel's perception of resources management

Item	Mean value	Mean value scale	Standard deviation
Prioritizing profitability over safety	4.26	Strongly agree	0.812
Prioritizing prices over safety level in buying equipment	4.10	Agree	0.756
Insufficient budget for occupational safety and health management	4.20	Strongly agree	08.741
Insufficient time provided	3.75	Agree	0.883
Neglecting safety and health elements during recruitment and selection	4.01	Agree	0.831
Lack/no training provided to personnel	4.12	Agree	0.784
Ineffective training	4.03	Agree	0.725

Table S10 Construction personnel's perception of OSH policy

Item	Mean value	Mean value scale	Standard deviation
Not in written form	3.29	Slightly agree	0.976
Difficult to obtain and not being communicated to personnel	3.58	Agree	1.002
Not being reviewed	3.62	Agree	0.935
Complicated format/length/language	3.62	Agree	1.007

Table S11 Construction personnel's perception of safety management

Item	Mean value	Mean value scale	Standard deviation
Safety procedure not in written form	3.62	Agree	1.030
Safety procedure difficult to obtain and not being communicated to personnel	4.02	Agree	0.915
Safety procedure complicated format/length/language	3.85	Agree	0.933
Demanding working schedules	3.81	Agree	0.738
Working overtime	3.79	Agree	0.744
Need to work at night	3.59	Agree	0.869
Insufficient time to complete tasks	3.67	Agree	0.811
No/insufficient safety meetings	3.72	Agree	0.809
No/insufficient job analysis	3.78	Agree	0.790
No periodic health inspection for personnel	3.90	Agree	0.776
Occupational accidents and illnesses are not recorded	3.82	Agree	0.840
Occupational accidents and illnesses are not reported to govern bodies	3.73	Agree	0.887
Near misses are not recorded and reported	3.88	Agree	0.854

No/insufficient safety supervision by the main contractor	4.07	Agree	0.759
No/insufficient safety supervision by Sub-contractor	4.07	Agree	0.759
No/insufficient safety supervision by Safety officer	3.86	Agree	0.878
Poor supervision by safety personnel	3.85	Agree	0.881
No/insufficient inspection by governing bodies	3.63	Agree	0.933

Table S12 Construction personnel's perception of management culture

Item	Mean value	Mean value scale	Standard deviation
Prioritizing quality over safety	3.78	Agree	0.998
Occupational safety and health is not included as successful project criteria	3.61	Agree	1.158
Poor affiliation between management and employees	3.78	Agree	0.809
Poor communication between management and employees	3.85	Agree	0.779
Management is not sensitive to the religious and cultural needs	3.39	Slightly agree	1.075
Employees are not well represented	3.51	Agree	0.900
Insufficient commitment from management in terms of safety and health	3.98	Agree	0.984

#### 4. External factors

Table S13 Construction personnel's perception of political and legislation

Item	Mean value	Mean value scale	Standard deviation
Mandatory training and skills established are inadequate	3.32	Slightly agree	0.966
Insufficient legislation regarding licensing and competency	3.15	Slightly agree	1.060
Legislation is imprecise	3.02	Slightly agree	1.194
Disputed legislation	3.11	Slightly agree	1.087
Ineffective implementation of legislation by governing bodies in terms of time, human resources, and monetary	3.12	Slightly agree	1.166

Table S14 Construction personnel's perception of the economy

Item	Mean value	Mean value scale	Standard deviation
Difficulty in supply in services, materials, and personnel in terms of time	3.25	Slightly agree	0.827
Difficulty in supply in services, materials, and personnel in terms of quality	3.35	Slightly agree	0.823
Bad economy situation	3.32	Slightly agree	0.882

Table S15 Construction personnel's perception of social

<b>Item</b>	<b>Mean value</b>	<b>Mean value scale</b>	<b>Standard deviation</b>
Clients neglected occupational safety and health issues	3.98	Agree	0.816
Society neglected occupational safety and health issues	3.69	Agree	0.939
Lack of exposure and information provided to society	3.75	Agree	0.934