LA TROBE UNIVERSITY

Future of Work Report

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ASHPA HFESA Human Factors & Ergonomics Society of Australia Inc. AIOH AUSTRALIAN INSTITUTE OF OCCUPATIONAL HYGIENISTS S.I.A. Safety Institute of Australia

Contents

About ASHPA

The Australian Safety and Health Professional Associations (ASHPA) represents over 5000 health & safety professionals committed to protecting the health of workers. They include specialists in ergonomics, human factors, occupational medicine, occupational hygiene, safety and toxicology.

The member associations are the Australasian Faculty of Occupational and Environmental Medicine, Australian Institute of Occupational Hygienists, Human Factors and Ergonomics Society of Australia and Safety Institute of Australia.

ASHPA aims to promote and improve the practice of occupational health and safety through a variety of activities including:

- Organisation of joint meetings and seminars
- Collaboration in the field of training and education
- Publishing joint publications, guidelines, position papers and related documents
- Publishing joint statements related to occupational health and safety.

Background

Work plays a central role in our society, with very strong links between employment and positive health outcomes. Changes to the sorts of work we do and how we work along with significant digital disruption raises a number of questions about the future of work and the impacts on society. In response to some of these questions the Australian Government Department of Employment, together with the CSIRO, has been examining a range of data in relation to the future of work in Australia[1]. This research has used meta data along with extensive consultation across industry sectors to identify the impact of the fourth industrial revolution, towards a digital economy, on the Australian workforce. In addition, Safe Work Australia is a working with the CSIRO to examine the impacts of a changing work environment on work, health and safety (WHS). Results of these projects indicate potential impacts on the nature of WHS risks and therefore a change in the type of work required by WHS professionals.

In response to these findings, ASHPA (Australian Safety & Health Professional Association) identified the need to consult with members of the WHS related professions to improve understanding of the impact of the changes to the employment, industry profiles, and WHS risks, as identified by WHS professionals. ASHPA commissioned La Trobe University to explore the Future of Work for Work, Health and Safety Professionals and identify future professional development needs to meet any identified changes. The Human Factors and Ergonomics Society of Australia (HFESA), Safety Institute of Australia (SIA) and the Australian Institute of Occupational Hygienists (AIOH) professional associations jointly funded this project.

The changing nature of the physical, cognitive, and psychosocial hazards and subsequent risks within the workplace creates a new set of challenges for those engaged in designing and managing health and safety in the work environment. Anecdotal evidence suggests that: traditional safety hazards managed by the WHS professionals are now better understood by workplace stakeholders, new risks are emerging as a result of the digital economy, and there are changes in the ways of working and industry profiles.

The aim of this project was to collect data relating to the changing nature of work being undertaken by WHS professionals in Australia. This data will provide insights into the:

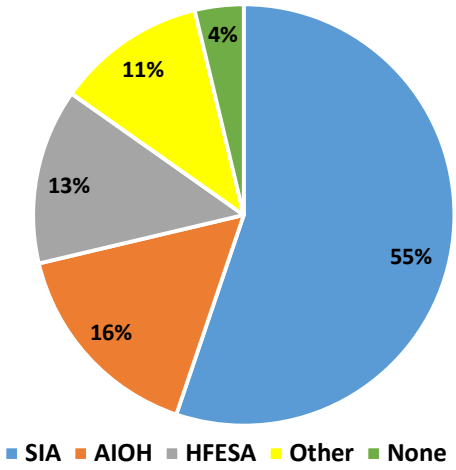
- Emerging WHS roles and risks identified by the WHS professionals across Australian government and industry.
- Professional development needs to equip WHS professionals for future work requirements.

[1] Hajkowicz S et al (2016) "Tomorrow's digitally enabled workforce". CSIRO

Who Participated?

A link to an online survey was distributed, via email, to approximately 5,268 members of the following associations, AIOH, HFESA, and SIA. A total of 733 responses were received, 16 of these had completed only the first question and were excluded from further analysis. The remaining 717 responses represent an overall response rate of approximately 16%. However, the true response rate is likely to be considerably higher as many respondents are a member of more than one association; therefore, the combined membership of 5,268 (calculated by adding the memberships of each participating association) is an overestimation of potential respondents.

Professional Association membership



Participation

HFESA = 23% of members

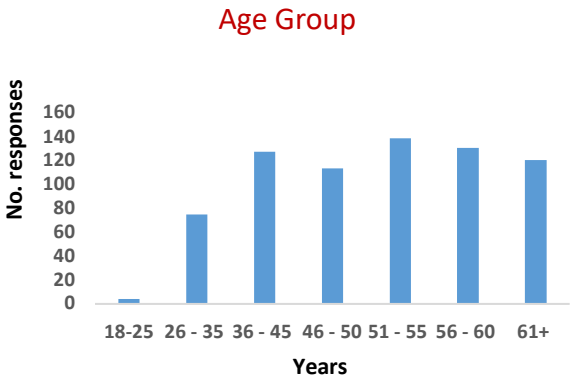
AIOH = 17% of members

SIA = 13% of members

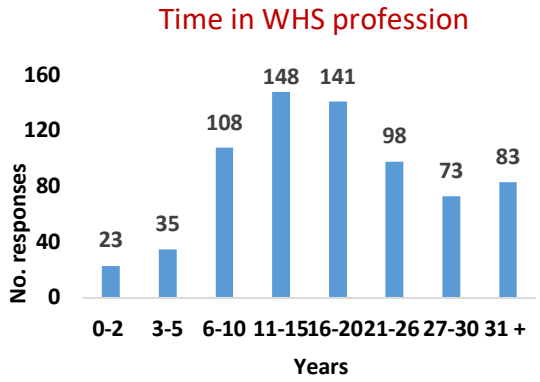
Other professional memberships *(31 associations reported by 83 participants)*

• *National Safety Council of Australia (14)* • *Australian Physiotherapy Association (12)* • *Risk Management Institute Australia (6)* • *Australian Association for manual handling of people (5)* • *Royal Australian Chemical Institute (4)* • *Engineers Australia (5)* • *OHS (WA) (4)* • *Australasian University of Safety Association (3)* • *Occupational Therapy Australia (3)* • *Australian Acoustical Society (2)* • *Australasian Radiation Protection Society (2)*	• *Australian & New Zealand Society of Occupational Medicine (2)* • *Australian Human Resource Institute (2)* • *Environmental Health Australia (2)* • *Australasian College of Road Safety* • *Australasian College of Toxicology and Risk Assessment* • *Australian Federal Police Association* • *Australian Institute of Company Directors* • *Australasian Institute of Dangerous Goods Consultants*	• *Australian Pest Manager* • *Australian Psychological Society* • *Australian Safety Critical Systems Association* • *Australian Society Rehabilitation Counsellors* • *Exemplar Global* • *Far North Queensland Safety Group* • *Industrial Foundation for Accident Prevention* • *Meditation Australia* • *Paramedics Australasia* • *Safety Reps* • *Southern Safety Group* • *Women in Safety & Health*

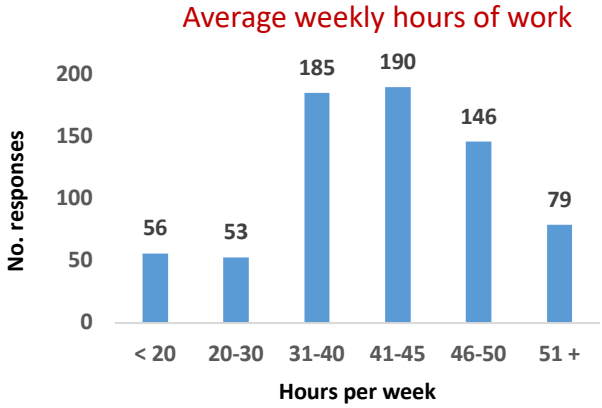
Participant demographics



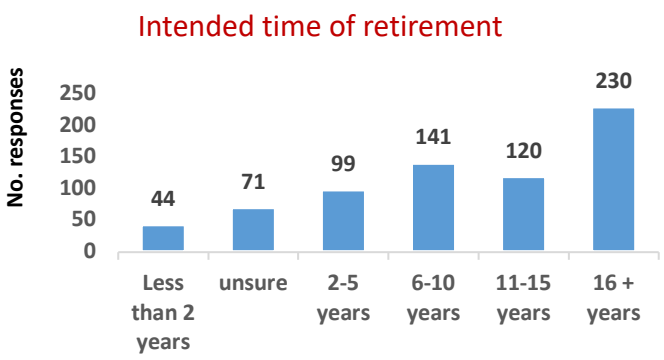
Sixty four percent of respondents were male. Participants were reasonably spread across the different age groups, although few participants were aged below 25 years.



Almost all respondents are currently working in WHS. The majority of participants had been working in the WHS profession for more than 10 years.



Most respondents were engaged in full time work. Of those working part-time hours (<30 hours per week), 75% were aged over 51 years, a disproportionate representation, as only 55% of total participants aged over 51 years. This may indicate either a lifestyle choice (e.g., semi-retirement) or may reflect a difficulty in finding full time work for those respondents over 51 years of age.

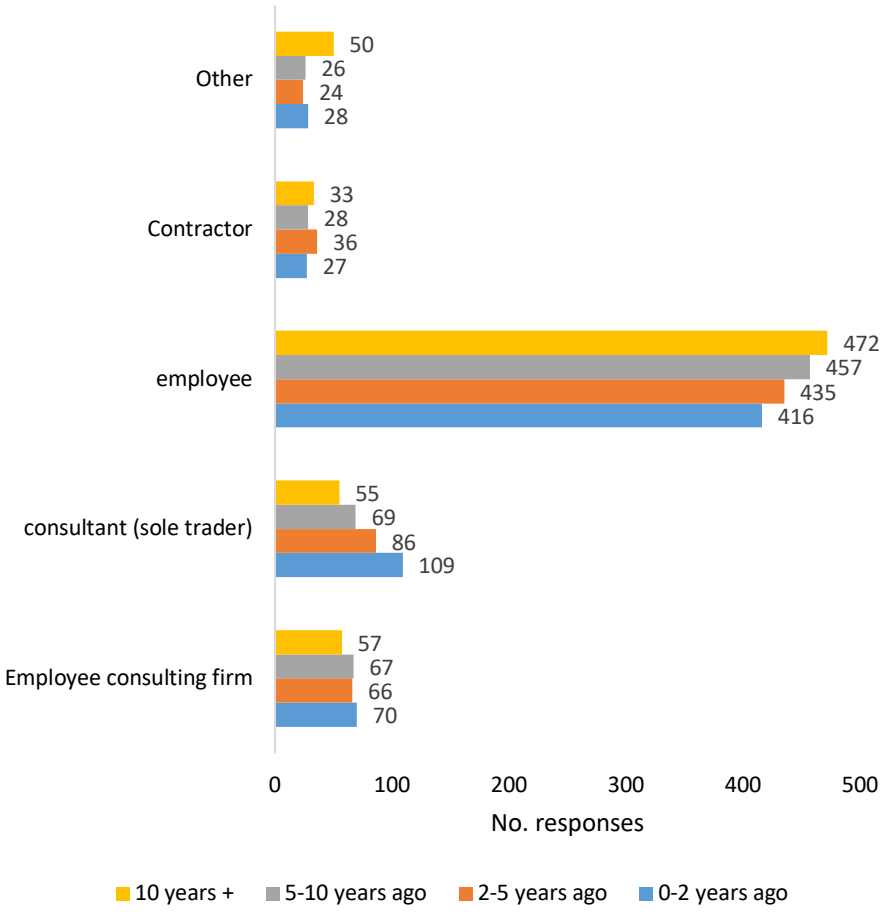


When comparing the length of time participants had worked in the WHS profession, to the intended timing of retirement, 47% of the 543 participants who were working in the industry for greater than 10 years, intended to retire within the next 10 years. This may cause some challenges in the availability of experienced WHS professionals.

Nature of employment

Respondents were engaged in a diverse range of roles. The majority were employed as WHS Managers, Consultants, Coordinators or Advisors. In cases where people indicated 'other', job roles included sales, admin, engineers and event manager.

Nature of current & past employment



Participants were asked to describe their employment arrangements, and reported the following:

- A decrease in the number of participants considered employees over last 10 years
- An Increase in the number of consultants
- A slight increase in the people employed in consulting firms.

Participants were asked about their main area of WHS practice. 'Other' areas of WHS practice included Ergonomics/Human factors, risk management, construction, design, psychosocial factors, and transport.

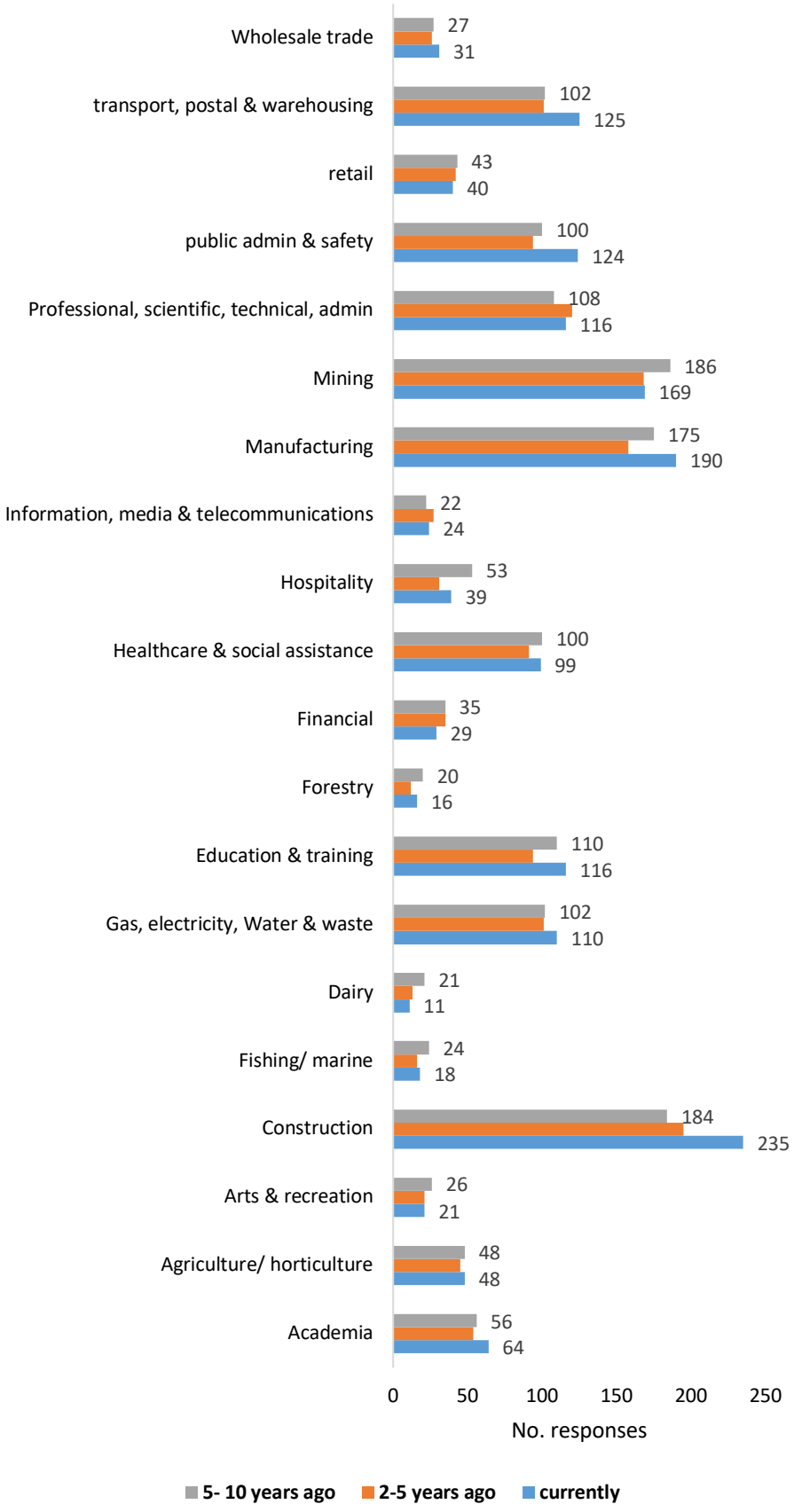
Main area of WHS practice	%
Generalist	14
Auditing and WHS management systems	10
Accident investigation	8
Manual Handling	8
Occupational Health	7
Hazardous chemicals / Dangerous goods	7
Education	6
Occupational Hygiene	6
Rehabilitation and return to work	5
Noise and/or Vibration	5
Fire and emergency management	5
Organisational design	4
Asbestos	4
Lighting	3
Fire protection	2
Biological Safety	2
Radiation Safety	1
Other	5

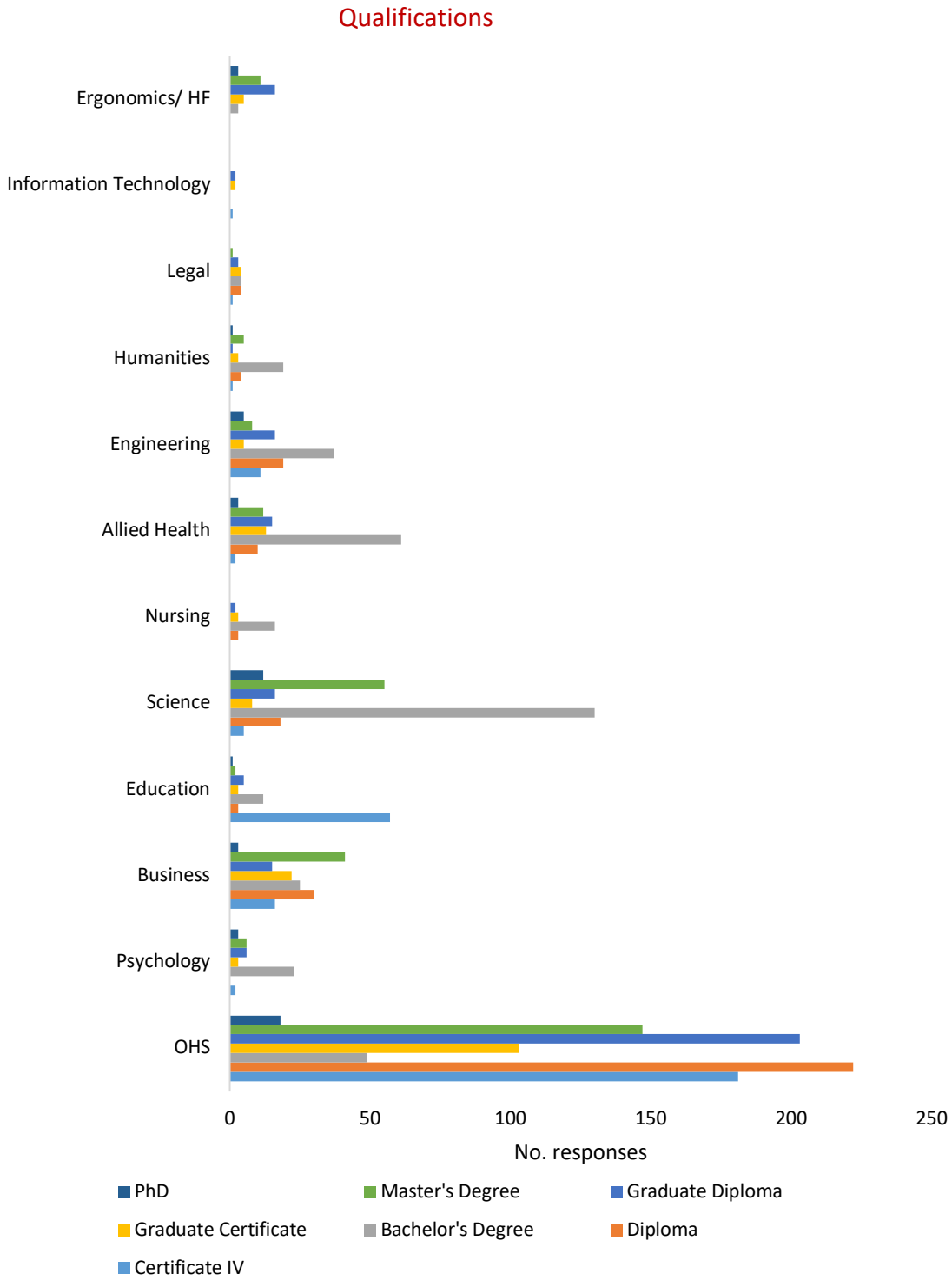
Main industry sectors where participants indicated they were currently working:

- Construction
- Manufacturing
- Mining

The sectors in which WHS professional are employed has remained relatively consistent with a few exceptions such as construction where engagement with WHS has increased. Mining and hospitability have seen a slight decrease in engagement with WHS compared to 10 years ago.

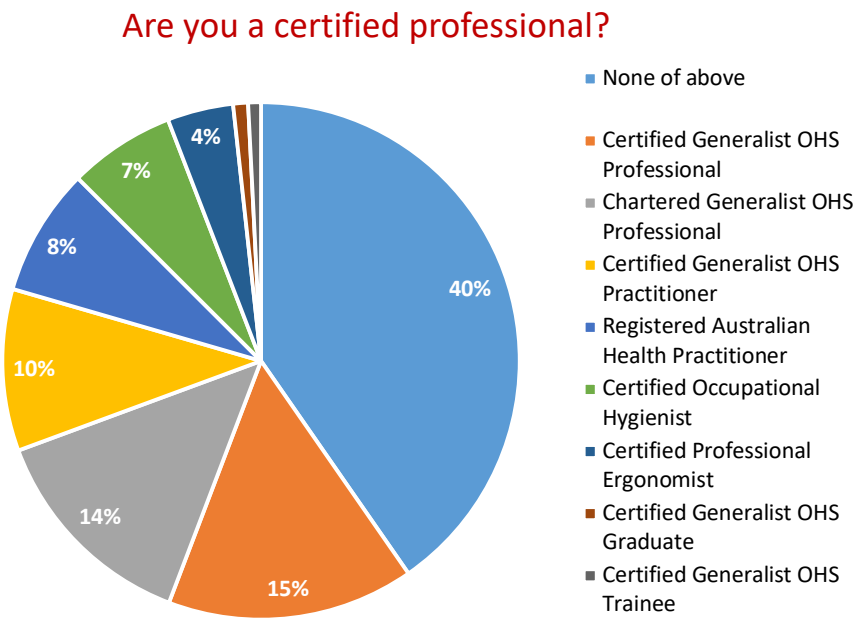
Industry sectors





Participants were asked about their qualifications.

- 83% participants reported they had a qualification in OHS
- Of this group, 27% also had Science qualification, and 22 % had business qualification

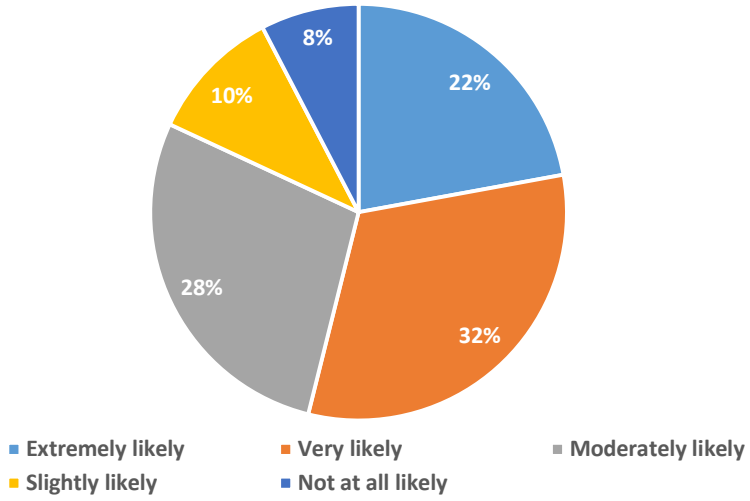


448 participants (approx. 60%) were certified professionals with their professional associations. A total of 303 participants were not certified with their professional association, and comprised the following:

- SIA members = 64%
- HFESA members = 12%
- AIOH members = 11%

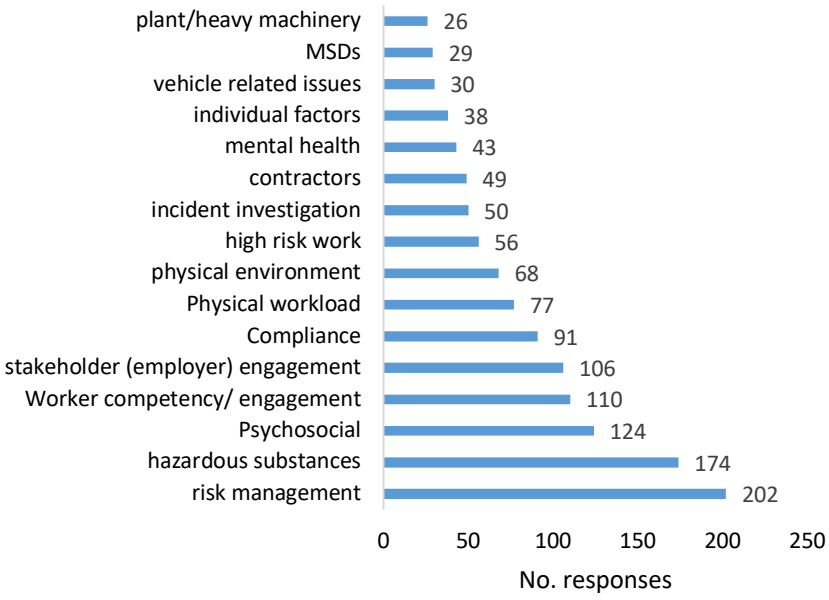
Nature of the WHS profession

Participants were asked how likely it was that their role would change in the next 5 years. Sixty percent responded that this was" extremely" or "very likely".



Current WHS issues being managed

Participants were asked to list the top three issues that they were currently managing. These were free text answers which were then grouped as outlined below, the definitions of these groupings are also provided along with relevant quotes to highlight some of the issues being managed.



Issue	Definition
Risk management	simplifying systems and moving away from just compliance
Hazardous substances	dealing with hazardous chemicals, asbestos & other respiratory hazards, PPE fit testing
Psychosocial	workplace bullying, work related stress, management work pressure, occupational violence, Culture- (safety culture, general references to culture change)
Worker competency/engagement	WHS training, employee engagement, behavioural safety, behaviour culture change
Employer engagement	leadership coaching, making WHS a priority for businesses, advocating for OHS prioritising by employers
Compliance	changing regulatory environment, regulator issues, safety inspections, auditing
Physical workload	manual handling, physical work, use of hand tools
Physical environment	heat, sun, noise
High risk work	construction, electrical safety, confined spaces, heights
Incident investigation/ reporting	accident & injury investigation, incident investigation
Contractors	safety of contractors, managing contractors
Mental health	mental health, mental wellbeing, psychological health
Individual factors	Wellbeing, fitness for work, illicit drug/alcohol use
Vehicle related issues	heavy vehicles, forklift, traffic management
MSDs	MSD management, injury management
Plant/heavy machinery	Plant management safety & culture, plant & people interaction (eg, machine guarding, training)

The main issues currently being managed by participants were hazardous substances and risk management.

> *"Asbestos Assessing, Occupational hygiene sampling of hazards (Dust, Chemical, Noise). Biological sampling of chemical hazards (Benzene)"*

Psychosocial issues were the third highest ranked issue and this included bullying, understaffing, shift work, culture change and occupational violence. Mental health was also raised as a current issue this is coded separately.

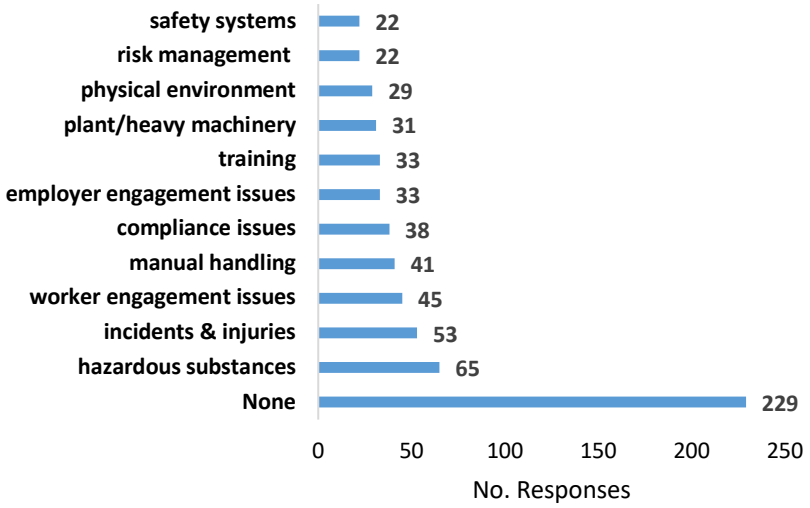
> *"Stress from lack of staff and understaffing. We simply cannot find sufficient staff to fill shifts & long-term vacancies. This creates difficulties as existing staff then work short… Occupational violence - an increasing number of clients with challenging behaviours hitting punching, grabbing, kicking and slapping staff"*

Stakeholder engagement (worker and employer) was another issue that many participants reported. This category includes raising the profile of WHS within the workplace and ensuring that employers and workers are compliant with OHS responsibilities.

> *"Organizational compliance and promoting employee or subordinate compliance … Complacency at senior line management levels of organisations to accept that Safety/Risk can become intuitive, not a "bolt" on to day to day organisational activities"*

WHS issues reported that have decreased or disappeared over last 5 years

Participants were asked to list the top three issues that they have worked on that have decreased or disappeared. Again, this was a free text response which was grouped as outlined below. The highest response category was that there were no issues that had disappeared or decreased.



Issue	Definition
None	no issues have decreased or disappeared in the last five years
Hazardous substances	dealing with hazardous chemicals, asbestos & other respiratory hazards, PPE fit testing
Incidents & injuries	WMSDs, serious injuries, LTIs, RSI, less injury/incident reports
Worker engagement issues	PPE use (has decreased as an issue), ownership of WHS (increased), negative attitude towards safety (decreased)
Manual Handling	manual task improvement due to automation & better use of equipment, less focus on manual handling, reduction in lifting weights so not an issue
Compliance issues	less non-compliance issues, less compliance focus, legal compliance
Employer engagement	safety culture improvement, management commitment increased
Training	manual handling training, ergonomics training, PPE awareness training, face to face training
Plant/heavy machinery	manufacturing, plant & equipment, machine guarding/safety
Physical environment	heat, sun, noise issues decreased
Risk Management	formal risk assessments, emergency management
Safety systems	SWMS, JSAs, safety systems

A large number of participants reported that no issues have decreased or disappeared.

> *"None have decreased or disappeared they are all ongoing issues which increase as workers age and health declines due to stress and poor lifestyle habits"*

It would appear that some issues are still present but are not considered a priority as the legal ramifications have changed and with this a reduced impetus to address the WHS issue.

> *"None only the focus on some areas has decreased coinciding with a reduced regulatory focus"*

For example, several participants noted that hazardous substance exposure was less of an issue. However, some care needs to be taken with this response, as this may reflect a decrease in focus rather than the issue itself disappearing:

> *"Exposures to diesel particulates, respirable and inhalable dusts and silica have decreased. However, standards are dropping as well, as new cases continue to occur."*

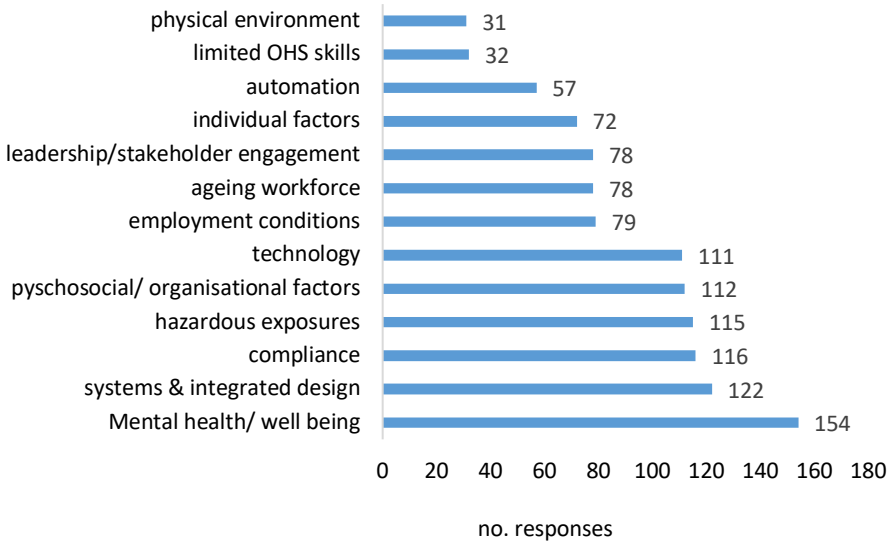
Some participants reported a decrease in the focus on compliance, "The focus on compliance has decreased in recent years.", while others reported an "Increased compliance with systems and procedures".

A similar number of participants reported positive changes in how WHS was perceived by employers.

> "Changing workplace cultural practices e.g. not wearing any personal protection equipment (PPE) to full PPE use; changing perceptions e.g. WHS is not a time consuming non-productive waste of time but is beneficial to both staff and management (reduction in Insurance Premiums of $100,000.00 per year."

WHS issues emerging/expected over next 5 years

Participants were asked to list the top three issues they considered as emerging or that they are planning for in the next 5 years. Again, this was a free text response which was grouped as outlined below. Mental health and well-being was the highest recorded category.



Issues	Definitions
Mental health	mental health, mental wellbeing, psychological health
Systems & integrated design	safety management systems, human factors, design, integration of WHS into business
Compliance	changing regulatory environment, regulator issues, safety inspections, auditing
Hazardous substances	dealing with hazardous chemicals, asbestos & other respiratory hazards, PPE fit testing
Psychosocial/ organisational	workplace bullying, work related stress, management work pressure, occupational violence, Culture- (safety culture, general references to culture change)
Technology	new energy technologies, digital awareness, drone technology,
Employment conditions	flexible work arrangements, remote work, transition from traditional 'blue' to 'white' collar workplaces, casualisation of workforce, immigrant labour, shift work, mobile work
Ageing workforce	succession planning for retiring staff, ageing workforce issue, staff retiring and leaving gap in corporate knowledge, older workers
Leadership/stakeholder engagement	leadership coaching, making WHS a priority for businesses, advocating for OHS prioritising by employers
Individual factors	Wellbeing, fitness for work, illicit drug/alcohol use
Automation	autonomous/semi-autonomous plant & equipment, autonomous vehicles, automation of work environment, robotics, AI replacing human workforce
Limited OHS skills	H&S professionals who do not have sufficient qualifications, lack of suitably qualified and experienced safety professionals, poor quality WHS training
Physical environment	extreme temperatures, sun, noise, manual tasks, lighting, vibration

Participants pointed out that even though there is much focus on the digital economy and technology, there is still considerable work undertaken in traditional industries.

> *"…many workers still work in 'dirty' industries as opposed to offices/retail etc. These people have been left behind by the Regulator. The recent coal workers' pneumoconiosis outbreak is a perfect example."*

Some of the issues connected with improved methods of communication were raised such as the important issue of work life interactions and how technology can make this more difficult to achieve.

"Whilst there are positive's associated with being able to undertake work with flexibility (i.e. working from home or different work locations) technology continues to grow … there may not be a delineation between work and home (will be constantly connected with work and can't switch off) which may create significant issues"

The changing nature of employment is a significant issue for WHS.

"Precarious employment undertaken by vulnerable labour least likely to complain. For example 3PL (third party logistic, formerly known as 'slave labour') undertaking heavy manual work left uncontrolled by large corporates using the law to outsource their risk;"

The need for appropriate skills for effective communication around OHS with senior management was raised as an important issue.

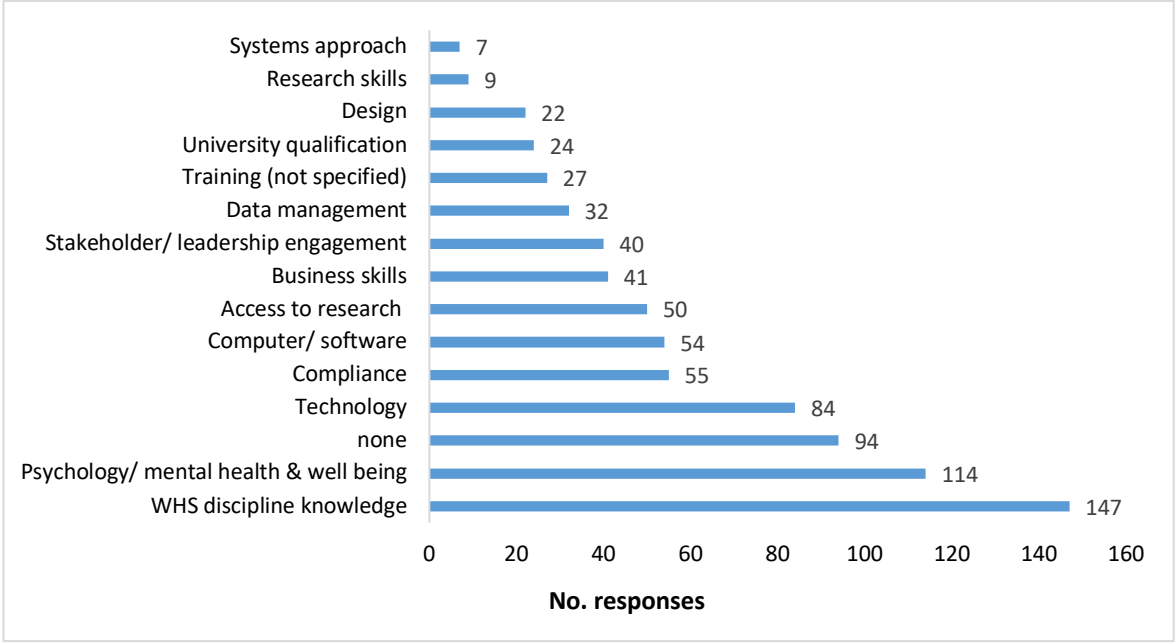
"Safety leadership - OHS professionals being sufficiently skilled / capable to influence leadership behaviours of senior managers and organisational culture"

The physical environment category as described in this section of 'emerging issues' is a combination of physical workload and physical environment. Of note is that in this section about future issues the physical category is substantially less than in the current issues section. This may be in line with the changing nature of work from more traditional physically orientated sectors to more sedentary based work.

Skills for the future

Participants were then asked to outline the additional technical skills and knowledge that they will require. WHS discipline knowledge and skills, psychology and mental health and well-being issues were the highest categories recorded.

Additional technical skills & knowledge required



Skills/knowledge	Definition
WHS discipline knowledge	risk management systems (including hazards & controls, integration into new technologies), occupational hygiene (sampling, toxicology), regulations & standards, HCI theory, auditing, ergonomics & biomechanics
Psychology/ mental health & well-being	psychosocial risk assessment, psychology, mental health support skills, communication methods, interpersonal skills, understanding human behaviour
None	no new technical skills are required
Technology	electronic devices, nanotechnology, digital technology, diesel technology, industry specific technical training
Compliance	changing regulatory environment, ISO standards, legislation
Computer/software	digital systems skills, enhanced IT skills, expertise in handling databases, emerging Apps and software, social media, computer skills
Access to research	research to public policy translation, research into people behaviour, better evidence base, academic advice, emerging/global topics
Business skills	financial skills, understanding economy, strategic thinking, writing, business case development, corporate governance, HR skills, marketing, project management
Stakeholder/ leadership	engaging with leaders and other stakeholders
Data management	Big data analysis techniques
Training	general reference to requiring more training
University qualification:	Undertaking a qualification
Design skills	Usability and UX in the design of system interfaces, Designing for accessibility, enhanced task and error analysis for the purpose of informing design
Research skills	Skills in undertaking research
Systems approach	Use of a systems approach in WHS

The need for access to knowledge was noted as important.

> *"The OHS/WHS regulatory space is forever changing and improving, and if OHS people are not up to speed with new or changed requirements and understanding what that means, then it is difficult to provide the right advice."*

Many participants reported a need to increase their skills around mental health and wellbeing

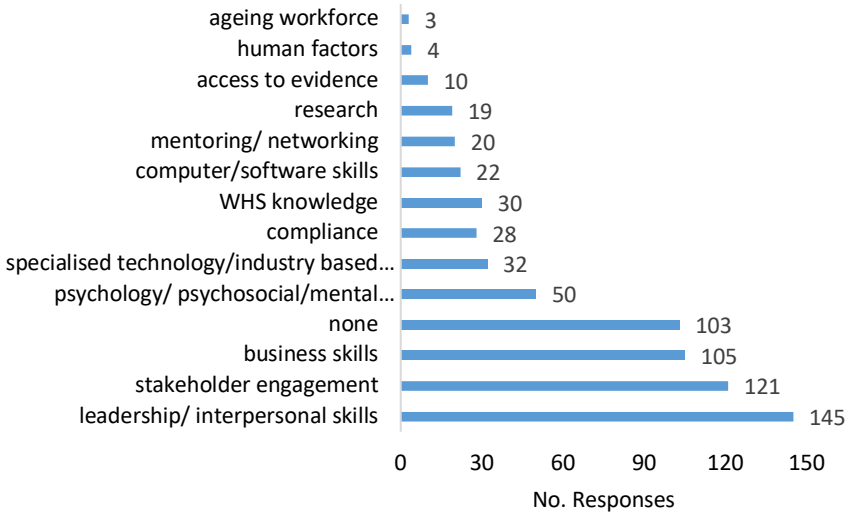
> *"Further development in wellbeing (culture, behaviour, values, being mentally healthy, disorders, psychosocial issues). How can OHS professionals develop a strategic, systematic approach in developing a framework for health and wellbeing."*

Additional technology skills were also mentioned as a skill which would assist participants in the future

> *"A broader understanding of digital technology and its uses in WHS, tools to enable the implementation of digital technology with the WHS message"*

Additional non- technical skills & knowledge required

The same question was asked about non-technical skills and the responses are below. A strong need for leadership, strategies for stakeholder engagement and business skills were outlined.



Skills/knowledge	Definition
Leadership/ interpersonal skills:	negotiating skills, interpersonal skills, communication skills, people management, soft skills, leadership, coaching, empathy
Stakeholder engagement	facilitate implementation, negotiation with stakeholders, influencing management, workforce engagement, engage other areas of the business, managing relationships.
Business skills	financial skills, understanding economy, strategic thinking, writing, business case development, corporate governance, HR skills, change management
Psychological/ psychosocial/ mental health	Understanding mental health, psychosocial issues and how to deal with them
Specialised technology/ industry based knowledge	Information about specific technology related to industry, specialised technology that can be applied more generally.
Compliance	Legislation,
WHS knowledge	risk management, OHS professional development, understanding issues,
Computer/software skills	enhanced IT skills, emerging Apps and software, social media, computer skills, access to IT platforms
Mentoring/networking	Networking with peers, mentor/mentee programs, collaborative learning
Research	Access to scientific evidence, references, research skills, targeted research
Access to evidence	Access to resources, computer based learning
Human factors	Awareness of people, human factors integration
Ageing workforce	Issues associated with ageing workforce

There were many responses relating to leadership & interpersonal skills:

> *"Changes to communication styles - may be very different to our initial training (I am sounding old now). Ability to relate to the workforce. If we can't get the workforce to communicate and feel that we listen then we can never really understand what the work issues are. Situations often seem different in the office compared to reality."*

Stakeholder engagement was also mentioned as a skill that could be improved

> *"How to best work with and manage people to adapt to and accommodate changes in their workplace, work tasks and workforce."*

Improved knowledge about business and using this to develop more effective communication skills was noted as an important non- technical skill for WHS professionals – it was also mentioned as a technical skill requirement

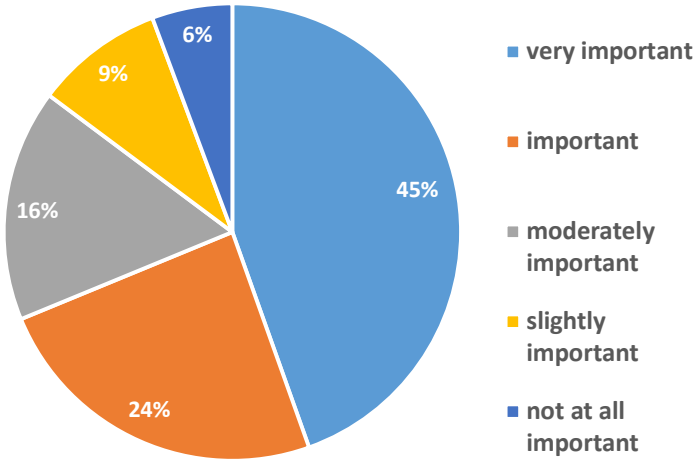
> *"WHS professionals also require business acumen to succeed in higher level management roles."*

> *"Leadership & management skills to become a respected member of the leadership team not just the safety guy."*

> *"In addition, I believe that safety professionals need to have a greater understanding of business and how businesses work, including operational management systems, logistics, etc. This is necessary to allow safety professionals to understand how safety can play an integral part in an organisation rather than simply being an overlay of rules and procedures that hinders productivity,"*

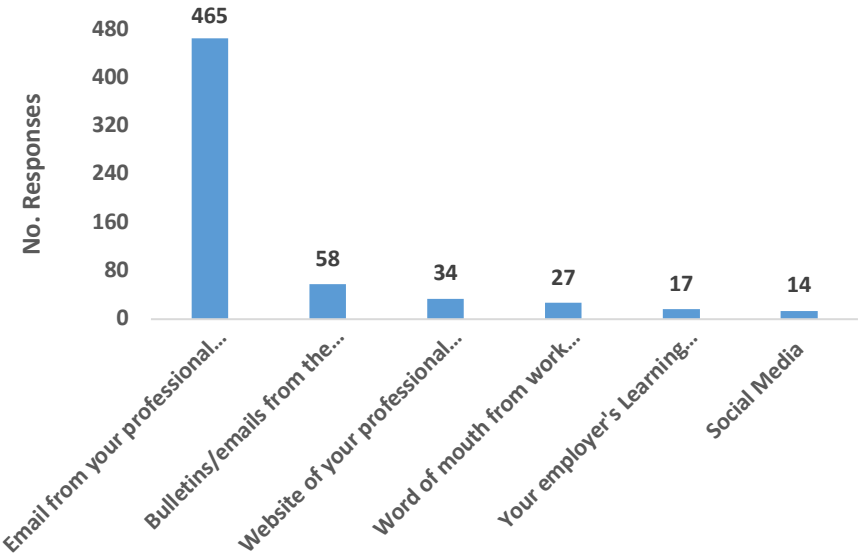
Professional Development

When asked about the role of the professional associations in providing professional development, the responses were very clear. Almost 70% of participants responded that the professional association was “very important” or “important” in their professional development.



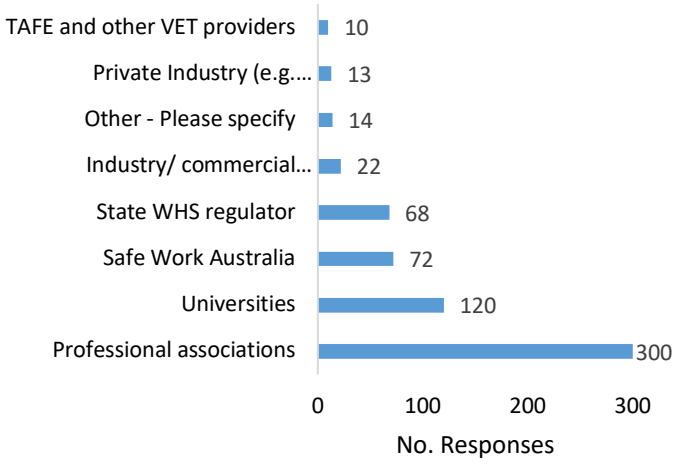
How would you prefer to find out about professional development?

Participants ranked their preferred methods of being informed about professional development opportunities. The strongest preference for being informed was via email from a professional association.



Preferred provider of professional development

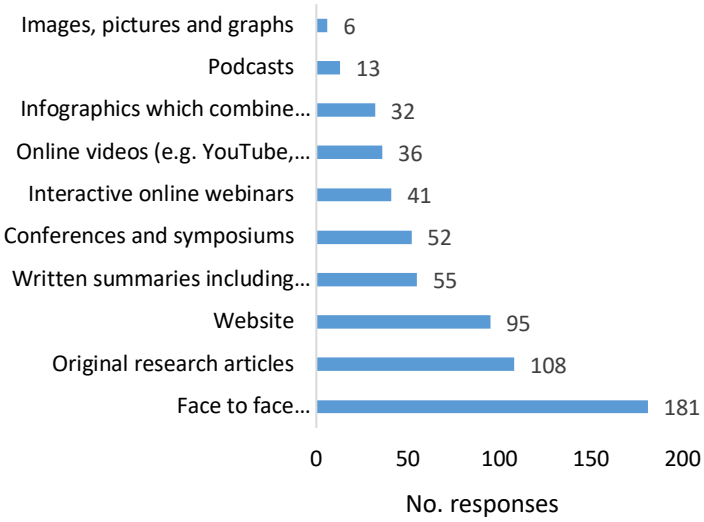
In relation to the provision of professional development, there was a very strong preference for the professional associations to undertake this role.



Where do people want to access professional development?

Participants ranked their preferences for accessing professional development information. The most preferred and least preferred modes are shown below.

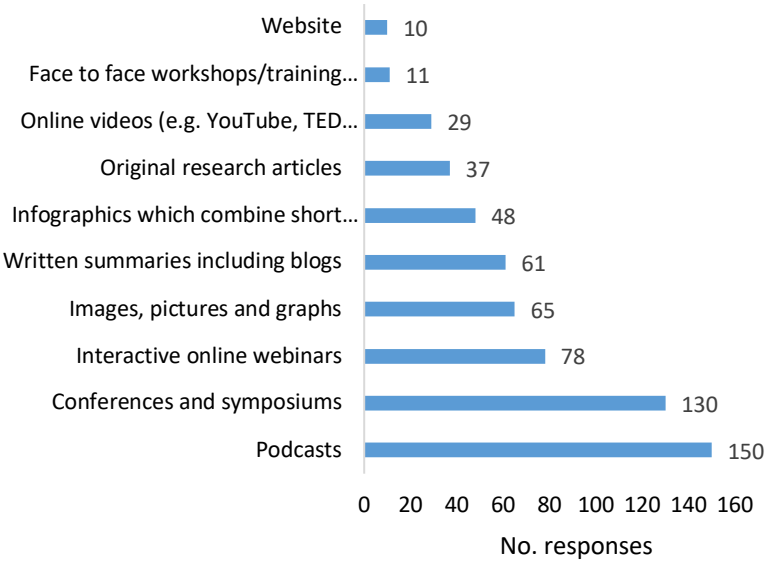
Preferred mode of professional development



Participants indicated that they preferred to access professional development through:

- face to face training
- original research articles
- websites

Least preferred mode of professional development



Participants indicated that they least preferred to access professional development through:

- Podcasts
- Conferences & symposiums
- Interactive webinars

Key findings

- The proportion of WHS professionals working in key sectors has remained reasonably static over the past 10 years.
- Manufacturing, construction and mining are the largest sectors of employment for WHS professionals.
- The top three WHS areas being currently managed are risk management, hazardous substances and psychosocial issues.
- The top three WHS issues that have decreased or disappeared are no changes, hazardous substance and incident management.
- The top three WHS emerging issues are mental health/well-being, systems and integrated design and compliance.
- Technical Skills required for the future are WHS discipline knowledge, mental health and well-being, and technology.
- Non-technical skills required for the future are in leadership/interpersonal, stakeholder engagement, and business.
- The professional associations are highly regarded as providers of professional development.
- Informing members by email about professional development is the preferred means of communication.
- Members prefer face to face professional development, access to original research articles and websites.
- Members indicate they do not want professional development through podcasts and conferences.

Final comment

The aim of this project was to collect data relating to the changing nature of work being undertaken by WHS professionals in Australia to address the following questions on the:

- Emerging WHS roles and risks identified by the WHS professionals across Australian government and industry.

- Professional development needs to equip WHS professionals for future work requirements.

The findings from this project provide key insights into what working WHS professionals have identified as key emerging issues, their professional development needs and where they prefer to access their training.

Whilst some of the sectors in which people are working are changing slowly, it is clear that what is required of WHS professionals and the skills they need in their roles are changing, and this affords opportunities for the professional associations to address these gaps and meet the needs of their members.

Thank you

Thank you to all the members of the AIOH, HFESA, SIA and others who participated in the survey. You have provided valuable information that will assist your respective associations in planning for the future of WHS. Thank you for the support from ASHPA in making this project possible.

Australian Institute of Occupational Hygienists

The overall objective of the institute is to help ensure workplace health hazards are eliminated or controlled. It seeks to achieve this by promoting the profession of occupational hygiene, improving the practice of occupational hygiene and the knowledge competence and standing of its practitioners. It also achieves this by providing a forum for the exchange of occupational hygiene information and ideas, promoting the application of occupational hygiene principles to improve and maintain a safe and healthy working environment for all and representing the profession nationally and internationally. See www.aioh.org.au

Human Factors and Ergonomics Society of Australia

HFESA represents the discipline of ergonomics and human factors in Australia. The Society is dedicated to the application and promotion of ergonomics and human factors and its members will represent the various domains of specialization within the discipline. The Society is an active and respected member of the International Ergonomics and Human Factors community. See www.ergonomics.org.au

Safety Institute of Australia

The objective of the Institute is to promote the health and safety of people. The Institute believes the distinctive advice of qualified and experienced health and safety practitioners is a prerequisite to the specification of the health and safety responsibilities of government, employers and community organisations. See www.sia.org.au

Questions

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