

What Safety Professionals Know (and Don't Know) About Older Workers

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Introduction

America's workforce is changing and older Americans are becoming the norm in the workplace. By the year 2010 the 45-years and older age group will be the largest cohort in the workplace (BLS, 2002). While Americans are living longer, and working longer, they are living healthier lives (NIOSH, 2004). The baby boom generation (those born between 1946 and 1964) is 77.5 million strong and the first official year of retirement is 2011. Most employers focus on easing older workers out the door as they near retirement age. However, 79% of boomers plan to work during their retirement years. (AARP, 2003). Employers would do well to think about retaining, not replacing baby-boomers. Smart companies know that they cannot fill jobs with the numbers available. When baby boomers begin to retire, the generation that follows will not have enough numbers to replace them as their population decreased by approximately 6 million people (AARP, 2003).

If corporations worked to support the older workers continued employment they could create a win-win for the worker and the company. Older workers exhibit traits such as experience, loyalty, attention to task, perseverance, work habits, and emotional maturity. (Novelli, 2003). They are usually mentors in the workplace and have a historical perspective that includes working smarter. Older workers use past experience to incorporate time saving steps in tasks as well as alternative ways to perform a task. A key issue in retaining older employees is in providing effective training to keep them working safely and injury free. This is the function of the health and safety professional.

The role of the health and safety professional is instrumental in bridging the gap between the older worker and their ability to work without injury. According to Schetagne (2001), one way to retain older workers is to improve the environment in which they work. A less physically and psychologically demanding environment might keep older workers on the job longer. Having a more ergonomically correct work environment throughout their careers, combined with more flexible schedules for those who want them, would likely have a more positive effect on retaining older workers than a simple change to the official age of retirement. (Schetagne, 2001)

Safety professionals have strong roots in understanding ergonomic issues and performing work in a safe manner. This is part of their undergraduate curriculum. Curriculum is lacking that

addresses adult characteristics such as physical, psychosocial, and cognitive issues related to aging. Safety professionals are not taught about these characteristics, which affect adult performance and learning. Yet the workplace is an appropriate setting for application of adult learning principles. Although age ranges vary, all workers are adults who come with experience, values, and expectations. Workplace training that occurs without utilizing adult learning principles fails the learner and the corporation.

Purpose of the Study

The purpose of the study was to determine the level of awareness of selected adult characteristics by health and safety professionals in the United States. Using Rossman's (1977) initial research, the following characteristics were studied are:

1. Physiological changes – vision, hearing and reaction time
2. Mental abilities – changes in cognition and ability to learn
3. Psychological factors – developmental stages, transitions
4. Orientation of the adult learner – experiences, motivation, andragogy.

Another purpose of this study was to use the data to make specific recommendations related to the addition of adult learning in undergraduate curriculum and post-graduate professional studies.

The study used a questionnaire which includes the following demographic information: age, sex, years of experience as a safety professional, level of education, and adult education background.

Significance of the Study

The significance of this study lies in developing and promoting standards of professional practice in accordance with the goals of the American Society of Safety Engineers (ASSE) for 2005-2008. This includes:

Objective 1.1.1 – Develop safety and health program accreditation criteria based on ASSE definition of Safety Professional/Practitioner/Profession criteria.

Objective 1.1.3 Promote and encourage research activities to determine appropriate academic safety and health curricula. (ASSE, 2005)

The American Society of Safety Engineers (ASSE) has four key functions of a safety professional. One of these is Communication of Hazard Control Information (American Society of Safety Engineers, 1996). This category includes ongoing safety training that meets OSHA requirements as well as ensuring that employees are following safe work practices. Yet “..most academic safety programs do not require a specific class in training techniques, nor is such a course required by the Accreditation Board for Engineering and Technology” (Adams, 2000, p. 40). Because of the lack of formal academic training not only do safety professionals graduate with little instruction on how to perform training but they are often unaware of adult learning principles and training techniques to make training more effective. Curriculum for the health and safety professional must include this information to bridge the gap between the workplace and the work environment to significantly impact the health and safety of the older worker.

The Board of Certified Safety Professionals defined 192 knowledge and 147 skill statements that define professional safety practice. This study ranked training and education at 9.9% of practice (Brauer, 2005). The certification exam covers four areas of practice for the safety professional. The third includes the category of "Safety, Health, and Environmental Information Management and Communications." Five of eight responsibilities in this domain relate to training (BCSP, n.d.). None of these responsibilities related to understanding adult characteristics to provide more effective training.

Methodology

The population used included members of the ASSE who categorized themselves in the branch, district, division, area, and regional managers of safety in the United States. A total of 1,131 questionnaires were mailed out using a mail service company. The total net responses were 415 or 37%. A non-response subset was created to address any differences in those who did answer the questionnaire versus those who did not.

The independent variables studied included demographic information related to age, sex, level of education, type of degree, and adult education background. These independent variables formed the basis of six null hypotheses. These hypotheses set out to understand how much the safety professional understood about the older adult. It also looked at which demographic variables led to better understanding. For example, does the safety professional with the bachelor's degree have a better understanding than those with a bachelor's degree in another field? Does the older safety professional know more than the younger safety professional about working with older workers?

All information was placed into SPSS Grad Pack 14.0 for Windows. The information gathered resulted in multiple independent and dependent variables; therefore, the multivariate analysis of variance was the most appropriate statistical test. The MANOVA F test was used to determine overall differences among mean scores for the four composite dependent variables. Univariate F tests were also done to identify differences in individual measurements of the composite variables. The level of significance used to accept or reject the null hypotheses was .05. Post hoc tests were run on all statistically significant results to prevent making a Type I error in reporting results.

Demographics

Demographic characteristics of the population surveyed closely resemble the trends in the American workforce, as the baby boomer generation grows older. The largest number of surveys returned included the baby boomer category of ages 46 through 65 (57.1%). The sex distribution resembled the population of the ASSE members. There are 329 (79.3%) males and 48 females (11.6%).

Of the survey sampled most respondents (24.5%) had over 25 years of experience as a safety professional. It is interesting to note that most of these professionals have a bachelor's degree but not in health and safety. Those with a Bachelor degree in safety were 14.9%, those with a different Bachelor degree 34.2%. The same holds true for those with a Master's degree. A Masters degree in safety was at 11.8% and other Masters degree 18.8%.

Most of the respondents had some form of adult education background. There were 44.6% who had one or more formal classes and 42.2% who attended workshops, conferences, and institutes. Only 13.2% had no adult education background.

Findings

The Rossman Adult Learning Inventory has 44 questions. The total mean score of the participants was 34.88 (79.27%) with a standard deviation of 3.92. The composite adult learning variable scores were:

1. Physiological changes – 73.73%
2. Mental abilities – 79.18%
3. Psychological factors – 78.36%
4. Orientation of the adult learner – 88.45%

The standard deviations for these scores were quite small: 1.35 – 1.61. The scores on the questionnaire ranged from a low of six to a high score of 43. The score of 6 served as an outlier in the study as the next lowest score was 20.

Conclusions

This study sought to identify awareness levels of adult characteristics among health and safety professionals. The lowest scores occurred in the area of physiological factors, highest scores on orientation to learning. It is interesting to note that oldest age category understood the least in regards to the composite adult learner variables related to physiological changes and mental abilities.

The research is important because the safety profession sets itself apart as a specialized field with the mission to promote health and safety in the workforce. In order to do that it is imperative that they are familiar with adult characteristics, as adults comprise the majority of the workforce. In addition, as the workforce grows older, understanding the physiological differences is essential. A look at the individual test scores shows deficits in knowledge regarding vision and hearing changes as well as the ability to learn as an older worker.

The greatest percentage of members surveyed had an adult education background through formal education or workshops and conferences. This was evident in the higher mean scores of orientation to adult learning and mental abilities. However, the lower scores of physiological factors and psychological factors serve as barriers to training adults in the workforce. It is evident that curriculum is lacking that address adult characteristics in these areas. It appears that curriculum does include information on adult learning theory; however, without adjusting for physiological changes such as vision and hearing, the transfer of training is lost.

Safety curriculum should be evaluated to adjust for the deficits that present themselves in this research. Many schools now have courses on adult education but they do not make the grade in understanding adult characteristics that affect learning and performance. This is evident in the fact that there is no difference between those with a safety degree versus those who do not have one. It is further evidenced in the fact that those without any adult education backgrounds fared better in understanding the physiological changes that occur.

Another important aspect of understanding this information is the support this will lend to lowering workplace injuries. Inadequate lighting, adjusting for vision and hearing, understanding reaction time, and changes in musculoskeletal strength all play a part in workplace injuries. Understanding teaching done regarding workplace hazards plays a part as well.

If safety professionals are to set themselves apart as a specialized field with the mission to promote health and safety in the workforce then it is critical that they include all aspects of adult characteristics in their adult education training. In fact, any field that involves training adults should incorporate these characteristics for without them, they are missing fundamental information to do their job well.

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