



Health, Productivity and Safety in the Workforce: Does Age Make a Difference?



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PROBLEM

- Growing aging workforce approaching retirement yet remaining in the workforce
- Aging workforce fills workforce gap contributing knowledge, advanced skills and is engaged and committed
- Chronic health condition increase with age which may affect productivity and safety

METHODS

- Anonymous survey administered to 4000 randomly selected employees at DOE contractor worksites
- Random stratified sample by three age categories (≤ 34 , 35 – 49, ≥ 50)
- 1854 surveys returned (46% response rate)
- 1147 surveys used for analysis
- HPQ-Select Scale Used (Kessler et al, 2003)

VARIABLES

- IV = health conditions, Age
- DV = Lost Days/100 FTE (lost days for absenteeism + lost days for presenteeism))
- DV = Relative Hours Worked (RHW) (Actual hours worked over expected hours worked reported as # absences per 100 FTE)
- DV = Self-report Work Performance/ Presenteeism (single item measuring self reported performance for a 28 day period)
- DV = Safety (two self-report questions)

DESCRIPTIVES

Age N (%)	Gender N (%)	Occupation*	One or more chronic health conditions N (%)
Total 1147 (100%)	Male= 754 (66%) Female = 393 (34%)	0 = 836 (73%) 1 = 112 (10%) 2 = 153 (13%) 3 = 46 (4%)	0 = 129 (11%) $\geq 1 = 1018 (89\%)$
≤ 34 326 (28%)	Male = 215 (66%) Female = 111 (34%)	0 = 836 (81%) 1 = 112 (7%) 2 = 153 (10%) 3 = 46 (2%)	0 = 59 (18%) $\geq 1 = 267 (82\%)$
35 – 49 410 (36%)	Male = 267 (65%) Female = 143 (35%)	0 = 836 (68%) 1 = 112 (11%) 2 = 153 (16%) 3 = 46 (5%)	0 = 38 (9%) $\geq 1 = 372 (91\%)$
≥ 50 411 (36%)	Male = 272 (66%) Female = 139 (34%)	0 = 836 (71%) 1 = 112 (11%) 2 = 153 (14%) 3 = 46 (4%)	0 = 32 (8%) $\geq 1 = 379 (92\%)$

*0 = professional; 1 = technical support/precision craft workers; 2 = administrative support; 3 = service line operator/security and fire

STUDY QUESTIONS

1. Do reports of chronic health conditions vary by age?
2. Do workers of different ages with one or more health condition vary by on *Relative Hours Worked, Self-Reported Job Performance and Safety?*

RESULTS: COMMONLY REPORTED HEALTH CONDITIONS*

Age** N (%)	Depression ***LD	Sleeping Problems LD	Overweight LD	Hypertension LD	High Cholesterol LD
≤ 34 263 (23%)	9.8% -407.57	17.8% 67.08	21.8% 202.75	11.1% 335.90	13.2% 170.02
35 – 49 390 (34%)	13.9% 316.21	25.4% 244.07	33.4% 69.13	14.9% 67.41	20.0% 139.53
≥ 50 493 (43%)	16.3% -131.58	32.3% -149.04	41.7% -107.44	32.3% 246.90	34.7% 16.24

* Most commonly reported chronic health conditions. **Percent of those with one or more health condition in comparison to those without any health condition in the age group. *** LD = Lost Days; For example, 16.3% workers ≥ 50 reported depression and had 131.58 (per 100 FTEs) fewer lost work days than those without the condition. On the other hand, 13.9% of workers 35 – 49 reported depression and had 316.21 (per 100 FTEs) more lost days of productivity.

RESULTS: Productivity and Safety

Differences in Productivity* and Safety**	≤ 34 N (%) Mean (SD)	35 – 49 N (%) Mean (SD)	≥ 50 N (%) Mean (SD)	F
RHW	N = 267 1.0 (.15)	N = 371 .98 (.2)	N = 376 .98 (.19)	1.587 P = .205
Self-reported Work Performance	N = 267 8.13 (1.4) _a	N = 370 8.38 (1.28)	N = 376 8.52 (1.18) _a	7.320 p = .001
Safety 1 (# accidents, injuries or poisoning requiring medical attention in last 12 months)	N = 326 .28 (.844)	N = 412 .20 (.529)	N = 416 .17 (.503)	2.90 p = .055
Safety 2 (number of days of work missed due to work related accidents, injuries or poisoning in last 12 months)	N = 65 .63 (1.917)	N = 66 .44 (1.541)	N = 59 .81 (1.707)	.732 P = .482

* Comparing those with one or more health conditions; _a significant difference between the means
** Safety questions are for all respondents with or without health conditions.

CONCLUSIONS

- Chronic health conditions vary by age; A greater percent of ≥ 50 report having the top 5 chronic health conditions, but report fewer lost days of work.
- When comparing age groups to each other, there is no difference in RHW or Safety.
- On Self-reported Work Performance, only workers ≤ 34 had significantly lower scores than those ≥ 50 .

STRENGTHS AND LIMITATIONS

- Use of valid and reliable measure of worker productivity
- Ability to generalize to the two participating work sites
- Acceptable response rate
- Can not generalize to overall workforce

IMPLICATIONS

- Older workers may report more chronic health conditions but this does not affect their productivity in the workplace. To address lost productivity interventions should target chronic conditions associated with the greatest lost productivity rather than specific age groups. Additional research should look at whether the number of chronic conditions is related to productivity and whether age is a factor in this relationship.