

Job Strain, Effort-Reward Imbalance, and Employee Health: Are Older Workers Worse Off?

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Overview



- Introduction and Research Question
- Method:
 - Large-scale cross-sectional survey among 11,636 Dutch employees
 - Multivariate logistic regression analyses
- Results:
 - DC and ERI Model comparison, related to two age groups
- Major Conclusion:
 - Differences in these age groups are **hardly** due to job strain or effort-reward imbalance

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Introduction



- 'Older workers' firmly on scientific agenda due to political, economic and demographic trends
- Also fed by stereotyping ideas such as productivity loss due to e.g. declining functions and health
- Distinction between older and younger workers is gradual, and varies in different ways
- In this study a cut-off point of 40 years of age was posited (cf. ADEA, 1986)

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Research Question



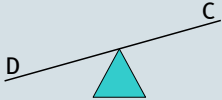
- Generally, most workers will suffer from health problems caused by unfavorable working conditions
- Does this prediction also hold for younger and particularly older employees?
- Is it true that older employees suffer from more health problems due to unfavorable working conditions than younger employees do?

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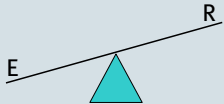
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Theoretical Frameworks

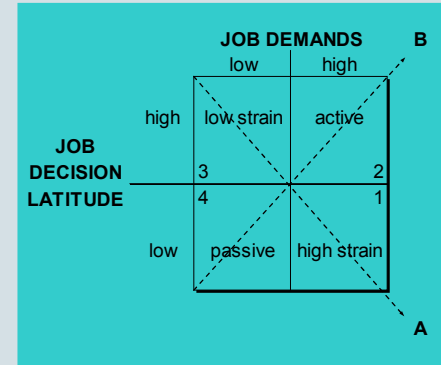
- Demand-Control (DC) Model (Karasek, 1979)



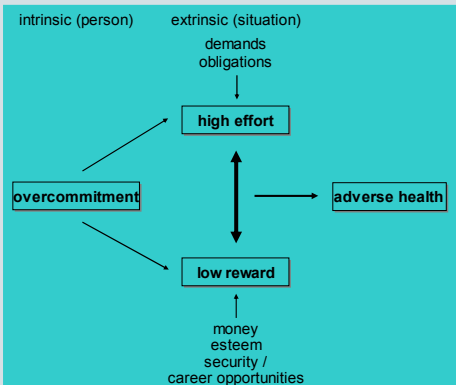
- Effort-Reward Imbalance (ERI) Model (Siegrist et al., 1986)



Demand-Control Model (Karasek, 1979, 1998)



Effort-Reward Imbalance Model (Siegrist, Siegrist & Weber, 1986)



Hypothesis



- People with high demands (efforts) and low control (or rewards) have the highest risk on burnout and health complaints
- QUESTION: Do older employees suffer from more health problems due to either job strain or effort-reward imbalance than younger employees do?

Method (1)

- Cross-sectional survey study (n=11,636)
- Dutch employees from different job sectors
- 70% male
- Mean age of 36 years (SD=9.6)
- Mean work experience was 8 years (SD=7.5)
- 87% full-time workers
- 31% managerial position

Method (2)

- **Job characteristics**
 - Job demands (8 items; $\alpha = .87$)
 - Job control (10 items; $\alpha = .88$)
 - Occupational rewards (4 different items)
- **Employee health**
 - exhaustion (4 items; $\alpha = .84$)
 - physical health symptoms (4 items; $\alpha = .74$)
- **Demographics**
 - gender, age, managerial position, work experience, and so on

Method (3)

- Two age groups (cf. ADEA, 1986):
 - younger than 40 years of age (n = 7030)
 - equal to and older than 40 years of age (n = 3343)
- Multivariate logistic regression analysis (odds ratios plus 95% confidence intervals)
- Different indicators for (1) job strain and (2) effort-reward imbalance
- Controlling for job sector, gender, education, employment status, and managerial position

Odds Ratio = Relative Risk

	Burnout	No Burnout
High Demands	20	80
Low Demands	5	95

$$\text{Odds Ratio} = \frac{20 * 95}{5 * 80} = 4,8$$

Results (1)

	Exhaustion	Physical Symptoms
Younger Workers	OR (95% CI)	OR (95% CI)
Low demands / high control	1.00	1.00
High demands / high control	.97 (.76 – 1.23)	1.02 (.80 – 1.30)
Low demands / low control	.89 (.65 – 1.22)	1.12 (.85 – 1.47)
High demands / low control	1.50 (1.10 – 2.04)	1.34 (.99 – 1.80)
Older Workers		
Low demands / high control	1.00	1.00
High demands / high control	1.03 (.81 – 1.31)	.98 (.77 – 1.25)
Low demands / low control	1.13 (.82 – 1.55)	.90 (.68 – 1.18)
High demands / low control	.67 (.49 – .91)	.75 (.55 – 1.01)
Interaction Effect		
Age	$p = .02$	$p = .27$

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Results (2)

	Exhaustion	Physical Symptoms
Younger Workers	OR (95% CI)	OR (95% CI)
Low efforts / high rewards	1.00	1.00
High efforts / high rewards	1.13 (.89 – 1.45)	1.05 (.83 – 1.34)
Low efforts / low rewards	1.01 (.73 – 1.39)	1.25 (.93 – 1.68)
High efforts / low rewards	1.19 (.87 – 1.61)	1.37 (1.02 – 1.84)
Older Workers		
Low efforts / high rewards	1.00	1.00
High efforts / high rewards	.88 (.69 – 1.13)	.95 (.75 – 1.21)
Low efforts / low rewards	.99 (.72 – 1.37)	.80 (.60 – 1.08)
High efforts / low rewards	.84 (.62 – 1.15)	.73 (.55 – .98)
Interaction Effect		
Age	$p = .61$	$p = .13$

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Results (3)

	Exhaustion	Physical Symptoms
Younger Workers	OR (95% CI)	OR (95% CI)
Job demands (efforts)	5.33 (4.73 – 5.99)	2.03 (1.80 – 2.29)
Occupational rewards	2.22 (1.95 – 2.52)	1.98 (1.74 – 2.25)
Job control	1.34 (1.18 – 1.53)	1.39 (1.23 – 1.58)
Older Workers		
Job demands (efforts)	4.60 (3.87 – 5.48)	1.94 (1.64 – 2.29)
Occupational rewards	2.13 (1.78 – 2.56)	1.56 (1.31 – 1.86)
Job control	1.16 (.94 – 1.42)	1.19 (.99 – 1.43)

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Conclusions (1)

- In general, findings show that differences in age groups regarding employee health are **hardly** due to either job strain or effort-reward imbalance (ERI)
- Findings in **younger** workers show associations between job strain/ERI and employee poor health (all in **expected direction**)
- Findings in **older** workers show **opposite** associations between job strain/ERI and employee adverse health
- Ranking order of adverse health predictors: (1) demands, (2) rewards, and (3) job control

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Conclusions (2)

- Explanations for 'older worker' results
 - job control not an adequate job resource?
 - healthy worker effect (only survivors left)?
 - other variables of interest (e.g. personality and non-work domain)?
- methodological limitations, such as:
 - misclassification in job strain and ERI
 - current cut-off point for age (40 years)
 - cross-sectional nature of database

Any questions?

