Burnout in Relation to Age in the Adult Working Population

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Burnout is a three-dimensional syndrome of exhaustion, cynicism, and diminished professional efficacy which can result from a combination of prolonged work stress and dysfunctional ways of coping1, 2. Burnout has both individual and organizational relevance since it has been shown to be associated with physical and mental ill health3, 4 and to predict work disability as indicated by medically certified sickness absence5.

In reviews, which have concerned mostly human service work, burnout has been reported to decrease with age2, 6, whereas population studies on burnout have found the opposite. In two nationally representative Finnish samples7, 8, which excluded the youngest adults, a positive association emerged between age and the level of burnout. Also, among the working population of one Swedish county, a high level of burnout was more common among aging workers than among middle aged workers, but not among young workers, suggesting a non-linear association between age and burnout9. Other socio-demographic associations of burnout have been shown to differ between the sexes8.

The aim of the present study was to explore the relationship between age and burnout by sex in three different age groups, namely among young, middle-aged, and aging workers in a nationally representative sample of employees including the full age range of the adult working population in Finland.

Methods

Subjects and procedure

The Health 2000 Study was carried out during 2000–2001 in Finland to obtain information on the current health status of the population. The two-stage stratified cluster sampling of the adult population living in mainland Finland has been described in detail previously9. The present original sample included 1,894 persons in the age range of 18–29 yr and 8,028 persons of 30 yr or older, altogether 9,922 persons.

The subjects were interviewed at home and then given a questionnaire to be returned either at the clinical health examination (older participants) or by post (younger participants). Due to the need to set priorities, the procedure differed between the younger and the older population: the younger participants did not take part in the comprehensive clinical health examination and were interviewed after the accomplishment of the study among the older participants.

During the interview, the respondents received an information leaflet and gave their written consent to participate. The Health 2000 Study was approved in 2000 by the Ethics Committee for Epidemiology and Public Health of the Hospital District of Helsinki and Uusimaa, Finland.

Of the original sample of 9,922 persons, 7,765 were of working age (<65 yr) and formed the study population of the present study. Of them, 6,655 participated in the interview (86%) and 6,217 returned the questionnaire (80%). According to the interviews, 4,529 working-age participants were in gainful employment. Due to more than one missing value per dimension of the burnout measure, 373 subjects were excluded, reducing the final study group to 4,156 persons. The respondents with one missing value per dimension were included, and the missing value was replaced by the mean of the values of the dimension of the respondent. Due to missing values concerning some confounding factors, the logistic regression model was calculated for 4,034 participants with full data.

Measurements

Burnout was measured with the Maslach Burnout Inventory-General Survey1. The items of professional efficacy were reversed. A weighted sum score was calculated for burnout as 0.4 × exhaustion + 0.3 × cynicism + 0.3 × diminished professional efficacy6. The sum score was dichotomized as no burnout (sum score 0–1.49) and burnout (sum score 1.5–6). According to this categorization, the symptoms were experienced approximately a few times a year or never in cases of no burnout, and monthly or more frequently in cases of burnout6.

Information on confounding factors was collected in the interview. Marital status was dichotomized as married, including co-habitation, and the rest. Education
level was divided into four groups: one vocational course or less, school-level, institute-level, or higher education. Service sector was dichotomized as human service work (i.e., education, health, and social services) and other than human service work. Type of employment was classified as permanent, temporary, or self-employed. Working hours were classified as weekly hours under 35, 35–40, and over 40.

**Data analyses**

The relationship between age and burnout was analyzed in three age groups: 18–34 (young), 35–49 (middle-aged), and 50–64 yr (aging) by sex. The odds ratio and 95% confidence interval of age as a continuous variable for having burnout were calculated with logistic regression models, which were additionally adjusted for marital status, education level, employment, and working hours, and work in service sector. Sampling parameters and weighting adjustment were used in the analyses to account for the survey design complexities, including clustering in a stratified sample, and the loss of participants.

**Results**

The final study population of 4,156 persons comprised 53% men. Of the participants, 42% were young, 41% were middle-aged, and 17% were aging. The majority of the participants (75%) were married or cohabiting. The level of education was distributed as: 26% had little, 36% school-level, 25% institute level and 14% higher education. Most were permanently employed (72%), while 14% were self-employed. One in five (22%) were employed in the human service sector. The majority of the participants had normal working hours (70%), while 12% worked part-time and 19% regularly worked overtime. Marital status, the level of education, type of employment, and working hours were significantly related to age group (p<0.001).

Figure 1 presents the mean burnout scores in men and women against age in 5-yr intervals. Table 1 shows that among women, age was negatively related to the probability of having burnout in the age group of young workers and positively related to the probability of having burnout in the aging workers. Among middle-aged women, burnout was not related to age. Instead, age was positively related to burnout among middle-aged men but unrelated among young and aging men. These associations did not change essentially after adjustment for age-related confounding factors or service provision (Table 1).

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**Table 1.** Odds ratios (OR) and their 95% confidence intervals (CI) of age (per year) for burnout by age group and sex

<table>
<thead>
<tr>
<th>Age group</th>
<th>Men</th>
<th>Women</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n/cases</td>
<td>OR (95% CI)</td>
</tr>
<tr>
<td>18–34 yr</td>
<td>663/165</td>
<td>1.000 (0.964–1.038)</td>
</tr>
<tr>
<td>35–49 yr</td>
<td>887/223</td>
<td>1.047 (1.012–1.084)</td>
</tr>
<tr>
<td>50–64 yr</td>
<td>484/148</td>
<td>0.984 (0.926–1.045)</td>
</tr>
</tbody>
</table>

* Adjusted for marital status, vocational education, type of employment, work in service sector, and working hours. Due to missing data the number of participants was 4,034 in the analyses.
in gender roles. It has been shown that the combined demands of home and work life affect the level of stress among women\(^1\). Women are still on average more often responsible for domestic duties than men. Despite the possibly higher total strain, having a family could also buffer the stressful effects of work demands\(^4\). Our finding that burnout was related to age among women outside the most active family years, lends support to this possibility.

Conclusions

Age was differentially related to burnout in separate age groups of men and women. However, the cross-sectional design of this study does not allow differentiation between the actual development of burnout during work career and a cohort effect. Therefore, longitudinal research on burnout is needed in order to better understand the relationships between sex, age, and burnout. These results suggest that aging workers, an increasing population, may need tailored work health promotion activities.

References

(2006)