

# Direct Participation as a Moderator between Weekly Working Hours and Mental Strain

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## Introduction

Countless studies indicate that long working hours can lead to increased symptoms of stress, fatigue and general health impairments (cp. Luczak, 1983; Schmidtke, 1965). This is not only due to stress exposure time and the well-documented accumulation of stressors (cp. Spurgeon, Harrington & Cooper, 1997), but in the diminishing “rest-time” which is necessary as a “recovery period” (BAuA, 2002). If the length of actual working time cannot be influenced, we must consider which other influential factors can effectively reduce the pressure on full-time employees and especially on those who consistently work long hours. There are numerous indications in the literature that job control reduces the effects of stress, particularly for very demanding work. Concerning the link between workload and stress, Karasek (1979) demonstrated that highly demanding work combined with a considerable degree of job decision latitude and job control resulted in scarcely any symptoms of stress. It is possible that participation has a similar beneficial effect, with a positive influence on job satisfaction, innovation success, productivity and performance, as well as fluctuation and work absence, that is well-documented in psychological literature (see Heller et al. 1998; Locke & Schweiger, 1979; von Rosenstiel et al., 1987). Though *participation* is predominately seen as an intrinsically motivated, constant need for competent and autonomous dialogue with one’s environment (cp. Deci & Ryan, 1985), it can also be perceived as an external resource (cp. Hobfoll, 1998) which has a moderator effect on workload and strain (cp. Lazarus & Launier, 1978). The conclusion that a high level of participation in demanding work has an effect similar to that demonstrated by job decision latitude and job control, is self-evident. In particular, employees who tend to work a lot of overtime and who enjoy a high participation level can be expected to exhibit less strain than those with a low participation level. Furthermore, we assume that part-time workers with a high participation level actually show higher strain levels than part-time workers who participate less because, for this group of people where time pressure is high anyway, participation simply represents additional workload.

## Method

The study used a standardized written questionnaire which was given to a sample of 254 office staff in ten different branches. 55% of those interviewed were women and 45% men. Average age was approximately 36 years.

To measure *participation*, the “Questionnaire on Direct Participation in Office Work Places” from Prümper et al. (2002) (German title: „Fragebogen zur Erfassung der direkten Partizipation im Büro“ - FdP-B) was used. With 32 items in eight different areas, this questionnaire maps employees’ possibilities for participation in their daily work environment and the associated change requirements on a five-level scale. An example item is: “In decisions regarding the improvement of work processes in my field, I am ... (‘not at all’ to ‘very much’) ... involved” (for more details concerning the scale, see Lohmann & Prümper, submitted.)<sup>6</sup> For this study, the eight sub-scales of direct participation were added together to obtain an average value and divided at the median to acquire a difference between low ( $M \leq 2.31$ ) and high ( $M > 2.31$ ) participation.

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<sup>6</sup> The questionnaire was developed during the project CCall, supported by the Federal Ministry of Labour, BMA (currently the Federal Ministry of Economics and Labour, BWMA), and carried out under contract to the Verwaltungs-Berufsgenossenschaft, VBG, between October 2000 and June 2002. This article is a translation of a German publication by Lohmann and Prümper (2003).

To measure *strain* the "Irritation" scale from Mohr was used, a seven-point scale with eight items. An example item is: "I get irritated easily, although I don't want this to happen" (answers ranged from 'strongly disagree' to 'strongly agree').

For *weekly working hours*, the weekly working time was calculated. In this study, a differentiation was drawn between "up to 30 hours" (part-time, n = 43), "over 30 to 40 hours" (full-time, n = 92) and "over 40 hours" (employees consistently working overtime, n = 119).

The effect of participation on strain in different working time scenarios was calculated with a two-way MANOVA. Specific mean differences were checked by a priori contrasts in an ANOVA procedure.

### Results

When we examine the independent variable *weekly working hours* and the interceding variable *participation*, weekly working hours demonstrate a significant main effect ( $F = 9.84$ ;  $p < .001$ ). Participation, however, does not ( $F = .22$ ;  $p = .64$ ). This means that irritation increases with longer working time and, furthermore, that participation has no direct influence on the level of irritation. Simultaneous observation of *weekly working hours* and *direct participation* shows, as expected, a significant interaction ( $F = 5.16$ ;  $p < .01$ ). Depending on the number of working hours, participation acts as a moderator variable on irritation (see fig.1). Those persons who work more than 40 hours a week and have a high participation level (n = 80), demonstrate significantly *less* irritation ( $t = -2.17$ ;  $df = 248$ ;  $p < .05$ ) than those working more than 40 hours a week with a low participation level (n = 39). In contrast, persons working 30 hours a week or less who have a high level of participation (n = 21) demonstrate a *higher* irritation level ( $t = 2.42$ ;  $df = 248$ ;  $p < .05$ ) than those working 30 hours a week or less with a low level of participation (n = 22). For those working between 31 to 40 hours a week (n – high participation = 51; n – low participation = 41), participation has *no influence* on the level of irritation ( $t = -.57$ ;  $df = 248$ ;  $p = .57$ ).

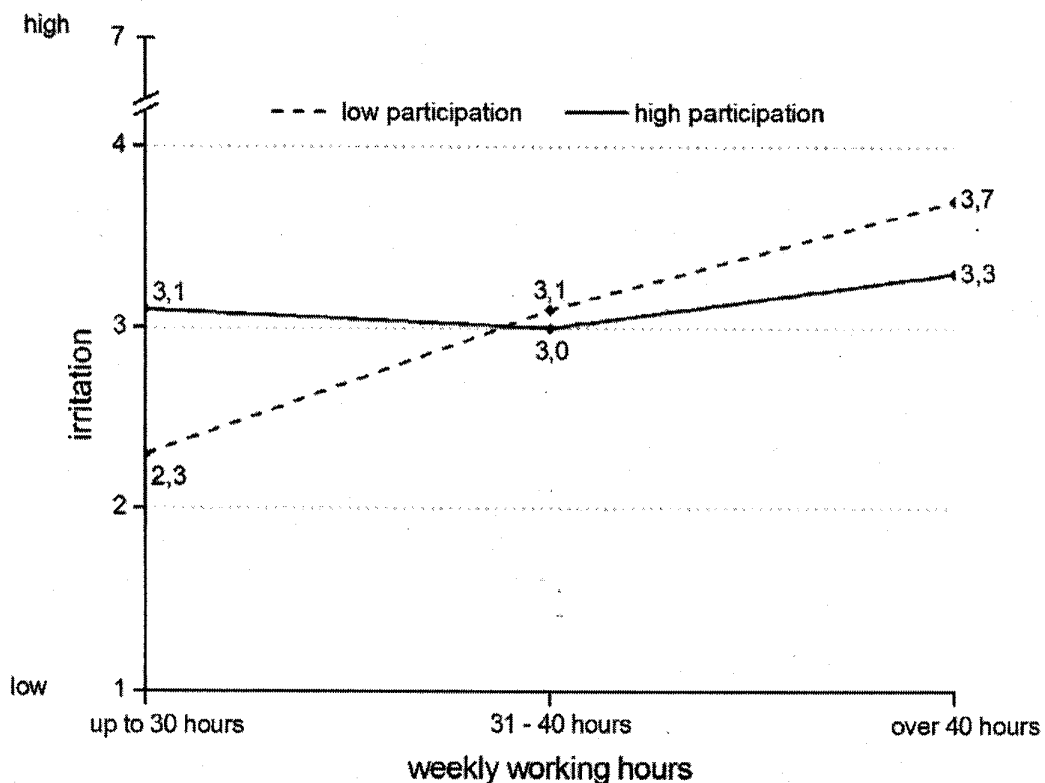


Fig. 1: Influence of direct participation on the link between weekly working hours and irritation

The results show that, depending on the number of working hours, direct participation has a moderator effect on the relationship between working hours and strain. For those persons working more than 40 hours a week, participation reduces strain. This confirms the assumption that, as Karasek demonstrated for job decision latitude and job control (1979; 1990), direct participation can also have a moderator effect on the relationship between workload and strain. Ultimately then, participation can provide a beneficial influence on employee health. Part-time employees who work less than 30 hours a week, however, do not benefit from increased participation - on the contrary, their strain actually increases. For this group, participation is not a resource as it is for those employees who commonly work long hours – far more, it becomes an additional stress factor, mainly because of the additional workload that participation introduces into the already short working time.

In practice, this does not mean that part-time employees should be shielded from making decisions - this would prohibit numerous other positive effects of participation on this group. Instead, especially in the case of part-time employees, “participative action”, scheduled as “participation time”, should be part of every job description.

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