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Differences in stress levels and sitting behaviour among VDU workers in varying workplace settings.

INTRODUCTION

- Work environment can affect both stress levels and sitting behavior at work[1,2].
- Seated working conditions, which are common in office environments, contribute a large portion to the time spent sedentary, being a risk factor for various health conditions[2].
- Both bad sitting behavior and increased stress can have a negative impact on health[3].
- **Aim: (1) evaluate differences in sitting behavior and stress at work among virtual display unit (VDU) employees working in two distinct workplace settings; (2) assess association between stress factors and sitting behavior.**

METHODS

- VDU workers (18-65 years) from two different workplace settings were included (Figure 1). G1 (*n*=41): Swiss insurance company with individual offices and ability of flexible planning of the working day; G2 (*n*=64): Two German call-center locations with a shared space and alternating desk availability.

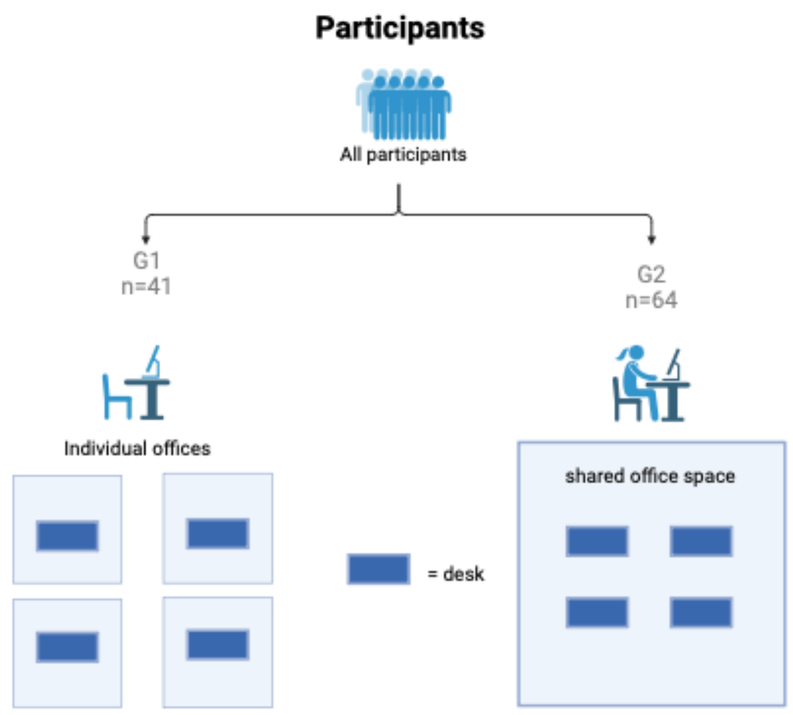

Figure 1. Differences in working conditions between both groups.

- A sensomative pressure mat (Figure 2[3]) was used to assess movements and position changes per hour [#], time moving on the chair [%], and mean time without movement [s].
- Chronic and work-related stress were measured using the Trier Inventory of Chronic Stress (TICS) and Effort-Reward Imbalance (ERI) scale.
- Mann-Whitney-U tests assessed group differences; a Spearman correlation (*r*) for stress factors with sitting parameters was conducted.

Figure 2. Office desk chair with sensomative pressure mat.

RESULTS

- G1 had significantly lower levels (p<0.05) of excessive demands at work, social isolation, lack of social recognition, tendency to worry, and chronic stress than G2; G1 had higher scores on all reward scales and a lower score regarding effort/reward imbalance than G2 (p<0.05).
- Sitting parameters showed significantly less movement changes per hour (77±20 vs. 91±24 [#]) and time moving on the chair (14±5 vs. 28±13 [%]) for G1 (Figure 2); G1 showed significantly more position changes per hour (22±7 vs. 11±7 [#]) and mean time without moving (43±13 vs. 32±18 [s]).
- Reward (*r*=,322), Reward esteem (*r*=,251), Effort-Reward Imbalance (*r*=-,269) (ERI) were significantly correlated with position changes; Reward promotion was negatively correlated with time moving on chair (*r*=-,235).

Figure 2. Differences in sitting behaviour between G1 and G2, significance (p<0.05). indicated with *.

DISCUSSION

- VDU workers in individual spaces with the ability to have flexible work planning experience less stress at work. The busy work environment of a shared space could contribute to the increased stress levels of the German call-center workers.
- VDU workers in shared office spaces have more movements and time moving on the chair but simultaneously less position changes, meaning they move more often, but return to their initial position.
- Work-related stress, especially lower rewards and effort-reward imbalance, seems to be associated with sitting behavior among VDU employees.

LITERATURE

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