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**Effects of work organizational characteristics and/or perceived strains on stress symptoms in French call-centers: utility of multilevel analysis.**

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Background

In cross sectional studies relationships between perceived strain and self-reported symptoms are suspicious of mono-method bias related to negative affectivity.

Aim

In this work, we test if work organizational characteristics (WOC) reported by managers are related to stress symptom score (SS) declared by call-handlers' in taking into account their perception of work strains and classical individual confounders.

Methods

The managers or/and the supervisor(s) of 107 call-centers were interviewed by occupational physicians with a questionnaire on WOC of their call centers. 4002 call-handlers completed a self-reported questionnaire including perceived work strain questions (Karasek and Siegrist's questionnaires, consumer violence, ethical conflicts, etc.) and 20 questions on stress symptoms. Multiple regression analyses showed which strains are related to the SS and which WOC are related to self-reported strains. A 2-level (call center and individual) analysis tested firstly the relationships between 17 WOC and SS, including individual confounders; secondly in adding the perceived strains as confounders, assuming that unchanged relationships between WOC and SS signs a direct effect of WOC on SS.

Results

Five of 17 WOC are significantly related to the SS. In adding 9 strains (5 coming from Karasek and Siegrist models and 4 complementary), the relationships between WOC and SS disappeared for 4 of 5 WOC.

Conclusion

Main results of this study are (1) existence of relationships between WOC reported by managers and self-reported health indicator (2) indirect effects of WOC passing by perception of work strains (3) normal causal relationships between work and health excluding reversed relationships.