



Effects of mental workloads on depression–anger symptoms and interpersonal sensitivities of accounting professionals

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ABSTRACT

The present study was conducted to investigate the effects of mental workloads on the depression–anger symptoms and interpersonal sensitivities of accounting professionals. A model was created in keeping with the main objective of the study, and regression analysis was carried out on the questionnaire responses from 168 accounting professionals employed in Kayseri. The results revealed the significant positive impacts of mental workloads on the depression–anger symptoms and interpersonal sensitivities of accounting professionals.

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Efectos de la carga mental del trabajo en los síntomas de depresión-ira y en la sensibilidad interpersonal de los profesionales de la contabilidad

RESUMEN

El presente estudio se dirigió con el fin de investigar los efectos de la carga mental de trabajo en los síntomas de depresión-ira y sensibilidad interpersonal de los profesionales de la contabilidad. Se construyó un modelo para conseguir el objetivo fundamental del estudio, y se realizó un análisis regresivo de las respuestas a una encuesta de 168 contables en Kayseri. Los resultados revelaron un importante impacto positivo de la carga mental de trabajo en los síntomas de depresión-ira y en la sensibilidad interpersonal de los profesionales de la contabilidad.

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1. Introduction

Some professions are more physically and mentally demanding than others. In some professions, improved automation systems together with rapid technological developments, modern production and control tools have started to minimize the burdens upon

the minds of relevant staff. However, due to the lack of any technological development, the minds of professionals in other professions have become overburdened. Such professions require the attention, concentration, motivation, judgment or evaluation of the individuals concerned. Accounting is one such profession. Accounting professionals have to work with high attention, caution and concentration levels for long periods of time. In the accounting profession, even a minor mistake may result in significant, serious and irreversible impacts on businesses. Therefore, accounting professionals exert significant mental efforts or, in other words,

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there is serious mental workload among them. It is evident that such a heavy mental workload may result in various negative perceptions, attitudes and behaviors. Therefore, the main objective of the present study is to investigate the effects of mental workloads on the depression–anger symptoms and interpersonal sensitivities of accounting professionals. Depressive symptoms, anger symptoms and interpersonal sensitivity were considered as the dependent variables of the study and mental workload was considered as the independent variable. Another objective of the present study is to evaluate the relationships among mental workloads and depression–anger symptoms and interpersonal sensitivity. Initially, a theoretical framework is provided and then the findings and discussions of the empirical study are presented.

1.1. Mental workload

There are several factors in a working environment that negatively affect the performance and health of individuals. Such negative factors and conditions should be minimized in order to allow individuals to work without any exposure to heavy workloads and stress. To minimize such negative factors and conditions, the characteristics of the relevant profession should be properly understood. The determination of the total workload level of a job is an important step in shaping the characteristics of a work environment or profession that result in overall physical and mental workload of employees (Dağdeviren, Eraslan, & Kurt, 2005, pp. 517–518). Within the total workload, mental workload is a prominent variable in some professions requiring a high level of attention, motivation, judgment and evaluations.

Mental workload is an intangible concept which by definition cannot be measured directly or assigned an absolute value. But, if one accepts that the human mind is limited in the rate at which it can process information, then mental workload can be seen as the percentage of that capacity in use at any time-point (Byrne, Tweed, & Halligan, 2014, p. 263). Mental workload is the amount of mental effort that an individual uses to perform tasks (Gao, Wang, Song, Li, & Dong, 2013, p. 1071). Mental workload is composed of the tasks to be performed by means of mental and perceptual activities such as calculation, decision making, communication, recognition and searching (Dağdeviren et al., 2005, p. 520). It is defined as the relationship between the mental resources required by a task and the individual ability to use such resources (Parasuraman, Thomas, & Sheridan, 2008, p. 146). According to Noyes et al. (2004), mental workload can be defined as the interactions between the task demands encountered while performing a job and the ability of an individual to overcome these demands (Öztürk, 2006, p. 8). Studies on mental workload were mostly conducted at the beginning of the 1960s with a greater emphasis upon the effects of mental workload on the quality of industrial works (Duru, Ermiş, Akay, & Kurt, 2005, p. 173). Such an emphasis is even more recognized nowadays together with the developments in computer technologies. Mental strength has become more important than physical strength with the increasing use of technology in working environments. There is significant evidence reporting the impacts of automated controls on mental workloads (Stanton, Young, Walker, Turner, & Randle, 2001, p. 233).

Mental workload also includes mental stress encountered while performing a specific task that requires perception, calculation and similar activities. Along with the characteristics of the task, it is a concept that also encompasses the task demands and ability and qualifications of an individual (Öztürk, 2006, p. 9). According to Young and Stanton (2001), the mental workload involved in a task is mediated by task demands, external support and previous experiences and it represents the level of resources toward the precaution required for meeting both objective and subjective performance criteria. In brief, mental workload depends on the characteristics

of the task and the ability and qualifications of the individuals performing such tasks. Noise, hot or cold environments, light levels and similar environmental factors also affect mental workload and consequently performance (Teja and Guillermo, 2001, p. 412).

Mental workload is commonly used in ergonomics and has an ever-increasing significance in such studies (Young & Stanton, 2001). Beside ergonomics, it is also used in psychology, medicine, statistics and some other disciplines such as engineering (Öztürk, 2006, p. 8). Mental workload has a critical significance on performance (Young & Stanton, 2001). The approaches for evaluating mental workload are considered under three categories. The first is *subjective measurements*. These measurements are applied with the rational scales provided after the use of the system (Wiebe, Roberts, & Behrend, 2010, p. 475). There are several single and multi-dimensional subjective scales (Subjective Workload Assessment Technique) and NASA (National Aeronautics and Space Administration-Tasl Load Index) scales are the most commonly used ones in workload studies (Luximon & Goonetilleke, 2001, p. 230). The second approach for evaluating mental workload is *performance measurements* (Wiebe, Roberts, & Behrend, 2010, p. 475). Most of the measurements in this approach depend on the time of response to the assigned mental task and on the accuracy of the response (Öztürk, 2006, p. 17). The final approach for evaluating mental workload is *physiological measurements*. Pulse rate, dilation of the pupil and similar physical measurements are also used for indirect evaluation of mental workload (Wiebe, Roberts, & Behrend, 2010, p. 475). Mental workload that can be measured by various means is recognized as a significant issue in the literature (Parasuraman et al., 2008, p. 147).

1.2. Depression–anger symptoms and interpersonal sensitivity

Exhaustion, depression, reluctance, anhedonia, slowdown in behaviors, pessimism, numbness, culpability, remorse, psychophysiological functional disorders and similar psychological symptoms have become unavoidable problems in modern social life. In this sense, such symptoms are considered as both an individual and a social problem.

Depression together with mental collapse and sadness significantly affect physical and mental processes and result in social disabilities (Blazer, Swartz, & Woodbury, 1998). Depressive symptoms are evaluated under two groups as psychological and somatic and some of these symptoms can be listed as follows (Taneli, Taneli and Taneli, 2001:5): depressive temperament, grief, monotone speech, pessimism, desperation, hopelessness, poor morale, anxiety, discomfort, tension, mournful gestures, concentration difficulty, slowdown in thought flow, lack of energy, exhaustion, unreasonable decrease in cheer, insomnia, apathy, anorexia, loss of weight or obesity, difficulty in decision making, memory disorders, difficulty in remembering, stomach discomfort, constipation, feelings of worthlessness, feelings pressure in the chest, palpitations, feelings inadequacy, discomfort in breathing, feelings of guilt, etc. Depression affects the quality of individual life, as well as the quality of work life. It is a mental issue (Takagishi, Sakata, & Kitamura, 2011, p. 919) and may result in significant costs to businesses. The significance of this issue has already been pointed out in relevant studies (Kessler et al., 2013). Job absences in depressive employees are usually higher than in others and depressive employees also have low performance and productivity levels (Welsh, 2009, p. 320).

Similar to depression, anger also has serious negative impacts on both individuals and organizations. Depressive individuals were reported to have less interpersonal ability, higher communication problems and negative lives than normal individuals (Şahin, Batgün, & Koç, 2011, p. 18). Biagio (1989) defined anger as a powerful emotion created against an actual or assumed hindrance, threat

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