

INDEPENDENT PROCESS MODEL OF LEADERSHIP ON EMPLOYEES' PERCEIVED WORK STRESS AND HAIR CORTISOL LEVEL

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The interrelation between the behavior of the supervisor and employees' level of work stress is scrutinized in various studies using different leadership styles and indicators of stress. Depending on the leader behavior, work stress can either be magnified or mitigated. The current study contributes to the literature of leadership by implementing the full-range leadership theory, consisting of laissez-faire, transactional and transformational leadership behaviors together with indicators of employees' work stress. Considering recent criticism concerning the construct of transformational leadership, transformational leadership will be modeled on its detailed dimensional level. In addition a mediational framework is implemented to specify the effects of leader behavior on work stress through the lens of the job-demands and resources model to specify how leaders affect followers' well-being and to focus on leadership process.

This study is set apart from recent studies, which on a solely focus on the use of subjective indicators of stress, and extends this research tradition by applying an objective physiological criterion for the assessment of work stress, namely cortisol. Therefore, the methodological strength of this study is characterized by the combination of subjective follower ratings of work stress as well as an objective measure.

Cortisol is the key biomarker of stress in the human body, which represents the activity of the hypothalamic-pituitary-adrenal axis. The connection between stressful situations and cortisol release is well established. Cortisol is usually measured via saliva, blood plasma or urine. In recent years, the assessment of cortisol via hair provides a promising method to display the cortisol concentration of the human body. This method comprises several advantages in comparison to traditional means. First, the sample collection is non-invasive, which means it does not cause stress itself. Second, samples can easily be stored over a long period of time. Third, hair cortisol is unaffected by the circadian rhythm of cortisol, meaning that the collection of one sample is sufficient to provide valid information over the cortisol concentration in the body. And lastly, this method represents a retrospective assessment of the cortisol concentration depending on the length of the hair which is assessed. Using 3 centimeter hair samples, inferences about the last 3 months can be drawn and a mean stress value can be computed.

Studies regarding the validity of hair cortisol as a high quality measure of stress focus on three main aspects. At first, differential effects in animal studies show a connection between highly stressful conditions and hair cortisol. Second, studies with human samples show correlations between high chronic stress exposure and high levels of hair cortisol in stressful situations like demanding working conditions (e.g. shift work or unemployment). Third, studies consider the psychoendocrine covariance between perceived stress and hair cortisol. However, until now no distinct results showed up in this research approach. Thus, this study transfers this approach in the field of work and organizational psychology.

To test the association between the full-range leadership behavior and the measures of work stress, 129 employees took part in this study on two measurement occasions. Participants provided information on the leadership behavior of their direct supervisor and on aspects of their job demands and resources, i.e. role conflict and organizational justice. Three weeks later, a hair sample was collected as well as information on subjective stress along with potential confounding variables regarding the cortisol assessment.

Using linear regression techniques, results show significant effects of leader behavior on subjective work stress and hair cortisol. Yet, results differ for the two stress measures. Hair cortisol is influenced by two facets of transformational leadership: identifying and articulating a vision increases the hair cortisol concentration, whereas fostering the acceptance of group goals reduces it. Simultaneously these effects are mediated via the job resource organizational justice. Looking at perceived stress, the job demand role conflict mediates the effects of leader behavior on perceived stress.

This study strengthens the relevance of leader behavior on employees' subjective as well as objective level of work stress. In addition, an independent model of leadership on work stress is presented incorporating the different effects on subjective and objective work stress. Further, results will be discussed in the context of leadership research and work stress theory and implications for future research as well as practice will be provided.

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