

Employee cardiovascular health relates to psychological well-being

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A Kansas State University researcher has found a link between physical and mental well-being that employees and employers may be able to capitalize on to improve both the health, and potentially the wealth, of their organization in these turbulent economic times.

Thomas A. Wright, Jon Wefald Leadership Chair in Business Administration and professor of management at K-State, published his findings on the relationship between employee psychological well-being and [cardiovascular health](#) in the February issue of the *Journal of Organizational Behavior*.

Wright said both physical and psychological well-being should be considered in terms of efficiency. One's psychological well-being is best considered in terms of an efficiency ratio -- the relative presence of positive emotions and the relative absence of [negative emotions](#) -- where the most psychologically well individuals are those who optimally balance their negative feelings with more [positive feelings](#).

Likewise, Wright's research reintroduces an efficiency-based measure of cardiovascular health that challenges the traditional approach of focusing individually on systolic [blood pressure](#), which measures the heart at work, and [diastolic blood](#) pressure, which measures the heart during the resting phase between heartbeats. The composite cardiovascular measure, pulse product, is defined in terms of an efficiency-based ratio -- the difference between systolic and diastolic blood pressure, multiplied by the [pulse rate](#) and divided by 100. In general, and within a

normal range, lower pulse product readings are considered to be more efficient.

Using a sample of supervisory-level personnel, Wright and colleagues found that while systolic and diastolic blood pressure measures were not individually related to psychological well-being, pulse product was. Those employees with higher, or more efficient, levels of psychological well-being also were more likely to have lower, or more efficient, pulse product scores.

"In our study, we found that even after controlling for employee age, gender, employee smoking behavior, education level, ethnicity, weight, job satisfaction and anxiety -- all widely proposed as correlates of blood pressure -- employee well-being was still a significant predictor of one's cardiovascular health as measured by pulse product," Wright said.

The preliminary findings indicate that those with pulse product scores in the mid-40s and higher may have an increased risk for cardiovascular disease and should consider consulting with their physician. Additionally, the research emphasizes the importance of considering cardiovascular health from an efficiency perspective, especially as one ages.

"Typically, much attention is devoted to the monitoring of diastolic blood pressure in the determination of cardiovascular health," Wright said. "However, as employees grow older, diastolic blood pressure tends to fall, or at least stabilize, while for many systolic blood pressure will often rise. This narrow focus on diastolic readings may result in a masking of the potential risk of cardiovascular disease for employees, especially for those over 50 years of age."

Wright said this is a concern because birth rates are declining and many baby boomers are delaying retirement due to the current economic

situation, which means a rapidly aging work force.

Employees' cardiovascular health has costly effects for both individuals and organizations. For a disease that affects about one in three Americans, Wright said recent statistics from the American Heart Association show that the cost of cardiovascular disease and strokes in the United States for 2007 was \$432 billion. He broke that down to about 60 percent, or \$259 billion, in direct medical costs and 40 percent, or \$173 billion, in lost productivity.

Wright said organizations should monitor their employees' cardiovascular health by considering the simultaneous role of pulse product and psychological well-being, though there are limitations.

"From past experiences, I know many potentially at-risk employees will refuse to have a company nurse or skilled medical technician take their blood pressure for fear that the information will be used against them," Wright said. "When all is said and done, it is the employees themselves who must shoulder the first line of responsibility for their health, and anyone with the ability to take their blood pressure and pulse rate can determine their pulse product."

Organizations can implement periodic health awareness campaigns and provide employees with the opportunity to anonymously access blood pressure monitoring machines at work, Wright said. Additionally, another significant finding from incorporating this efficiency-based approach to cardiovascular health is the pronounced negative consequence of smoking, which corporations can address through reduced employee insurance premiums for smoking cessation.

Source: Kansas State University

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