УДК 159.944.4

Mirgorod Y., Bogdanova L.

How stress affects your academic performance

Belarusian National Technical University
Minsk, Belarus

Stress broadly defined as a situation "in which environmental demands or internal demands tax or exceed the adaptive resources of an individual, social system, or tissue system" is pervasive in today's society with nearly a sixth of the world's population rating their average stress levels as extreme. Consequences of prolonged stress include adverse psychological and physical health effects, as well as an increased risk of premature mortality. While studies exploring the relationship between chronic or perceived stress and all-cause mortality exist, no study has examined the interaction between an individual's perception on how stress affects physical and mental health and the academic performance.

The perception on how stress affects one's health is conceptually distinct from the amount of stress an individual experiences. Indeed, one could report experiencing insignificant stress but still believe it to have a great impact on one's health. Research papers [1] support the concept that the perception of stress may impact future health outcomes.

Our study was aimed at examining the interaction between the stress experienced and the perception on how stress affects one's health, on the one hand, and the academic performance, on the other hand, in a representative sample of BNTU students. Separate logistic regression models were used to examine the factors associated with current health status and psychological distress. Cox proportional hazard models were used to determine the impact of stress on academic

performance. Each model specifically examined the interaction between the stress experienced and the perception on how stress affects one's health and the academic performance.

In accordance with the data obtained 31.3% of 131 BNTU students reported that stress affected their health a lot. Both higher levels of reported stress and the perception that stress affected their health a lot were independently associated with an increased likelihood of worsening physical and mental health outcomes. Those who reported significant stress and that stress was harmful to their health had a decline in the academic performance.

Some researchers have theorized [2] that changing the way we think about our bodily responses to stressful events can improve our physiological and cognitive reactions. To this end we examined whether reappraising stress-induced arousal could improve cardiovascular outcomes and decrease attentional bias for emotionally negative information. Our participants were randomly assigned to either a reappraisal condition in which they were instructed to think about their physiological arousal during a stressful task as functional and adaptive, or to 1 of 2 control conditions, i.e. attention reorientation and no instructions. Relative to controls the participants were instructed to reappraise their arousal exhibited as more adaptive cardiovascular stress responses (increased cardiac efficiency and lower vascular resistance) and decreased attentional bias. Our data supported the suggestion that reappraising stress arousal could show improved cardiovascular functioning.

Definite association between social connections of an individual and one's physical health has also been described in recent reviews [3]. Socially isolated people are assumed to be at substantially increased risk of mortality and morbidity compared to those with strong social ties. Our participants completed baseline interviews that assessed their past-year

stressful events and whether they were provided with tangible assistance from their friends or family members. The participant's mental health was assessed using the Kessler psychological distress test. Cox proportional hazard models used for assessment of psychological distress revealed a significant interaction between friendly backing in due time and stressful events. Specifically, the stressful events did not predict psychological distress among the individuals provided with help from others.

In summary, it can be assumed that a higher level of stress and the perception on how stress impacts one's health can correlate with worsening of physical and mental status. Those who perceive stress as affecting their health a lot and report a higher level of stress have an increased risk of going down in their academic performance. It is evident that changing individuals' perception of stress can lead to physiological and cognitive benefits. The relevant studies suggest that preventative methods are much more effective than curative treatment in some instances, i.e. appropriate adaptive responses to any stress experienced improve our ability to cope with future stressors. We hope that education programs might seek to educate students about the functionality of stress with an effort to break the link between physiological arousal, negative appraisals and decline in the academic performance.

References:

1. Lazarus R.S, Folkman S. Stress, appraisal, and coping / R.S. Lazarus, S. Folkman. – New York, NY: Springer Publishing Company, 1984.

2. Jamieson J.P, Mendes W.B, Blackstock E, Schmader T. Turning the knots in your stomach into bows: Reappraising arousal improves performance on the GRE / J.P. Jamieson,

W.B. Mendes, E. Blackstock, T. Schmader. – Journal of Experimental Social Psychology, 2010. – No.46. – P. 208–212.
3. House J.S, Landis K.R, Umberson D. Social relationships and health / J.S. House, K.R. Landis, D. Umberson. – Science. – 1988. – No.241 (4865). – P. 540–545.