

## **Stress and airport security: The effects of psychosocial stress on detection performance of X-ray screeners**

### **Original title / Originaltitel**

Stress und Flughafensicherheit: Effekte von psychosozialen Stress auf die Detektionsleistung von Luftsicherheitsassistenten

### **Summary / Zusammenfassung**

Aviation security is based to a great extent on the screener personnel's performance in the detection of threatening objects when visually inspecting X-ray images of passenger bags. Typical situational components like time pressure, impatient passengers, or waiting crowds are likely to induce psychosocial stress in the screening persons.

The planned project sets out to evaluate the effects of psychosocial stress and stress-induced hormone secretion on the visual inspection performance of X-ray screeners. 50 apparently healthy young men without previous experience in X-ray threat screening are randomly assigned into a stress and a waiting group. The stress group is confronted with a psychosocial stress test combining public speaking and mental arithmetics in front of an audience. Before and after the stress-task, (or waiting phase in the control group, respectively) subjects have to identify forbidden weapons like knives or guns in a computer-based object recognition test (ORT) presenting passenger bag X-ray images. We measure cortisol and alpha-amylase in saliva several times before and after the stressor as well as during the object recognition testing. The continuous assessment of heart rate completes physiological testing. Moreover, we assessed visual inspection performance as indicated by discrimination indices of threat detection ( $d'$ ,  $A'$ ,  $c$ ,  $B''$ ).

Weitere Informationen unter [www.psychologie.unizh.ch/vicoreg/research](http://www.psychologie.unizh.ch/vicoreg/research)

### **Publications / Publikationen**

Informationen unter [www.psychologie.uzh.ch/vicoreg/publications/index\\_byarea.htm](http://www.psychologie.uzh.ch/vicoreg/publications/index_byarea.htm)

### **Keywords / Suchbegriffe**

Airport security, object recognition, stress, cortisol, stress reactivity, heart rate, threat detection

### **Project Leadership and Contacts / Projektleitung und Kontakte**

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### **In Collaboration with / In Zusammenarbeit mit**

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