Inventory of an experiment: Situational Judgment Test

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Introduction

In addition to the assessment of cognitive abilities in the framework of the admission process to medical college, the assessment of non-cognitive abilities is increasingly demanded [1]. In this context various methods for determining e.g. the ability to handle theoretical social constructs (e.g., health / sickness, ethnicity, gender) in complex situations were evaluated [2]. As instruments for assessing personal qualities, tools– partially not undisputed – are discussed in the literature. An assessment instrument, whose application in the most varied contexts can be traced back into the 1920s, is the Situational Judgment Test (SJT) [3]. The SJT assesses a plurality of constructs [3] and is attested validity as a predictor for future job performance [4] and – assuming that job-related situations are described – face and content validity [4].

Context

The medical universities in Austria have been confronted with admission restrictions, and the resulting selection of students and the conception of selection processes since the academic year 2006/2007. As the only one of the three Austrian medical universities, the Medical University of Graz has amended its admission process by including a written Situational Judgment Test (SJT) in the year 2010. Despite some concerns regarding Situational Judgment Tests expressed in the literature, particularly the possibility to confront future students with the importance of the bio-psycho-social model was decisive for this extension.

Methods

Observational investigation focusing on the results of the situational judgment test (SJT). 4741 applicants were included in the study. To yield comparable results for the different test parts, "relative scores" for each test part were calculated. Performance differences between women and men in the various test parts are analyzed using effect sizes based on comparison of mean values (Cohen's d). The associations between the relative scores achieved in the various test parts were assessed by computing pairwise linear correlation coefficients between all test parts and visualized by bivariate scatterplots.

Aims

* To examine the item discriminati-on indices of the different test parts

Year	2010	2011	2012
Testpart			
Knowledge test*	0.306	0.342	0.349
Text compr.	0.238	0.271	0.276
SJT	0.196	0.311	0.176

*"Knowledge test" represents the combination of biology, chemistry, physics and mathematics

* To examine whether there is a correlation between the results of the individual test sections
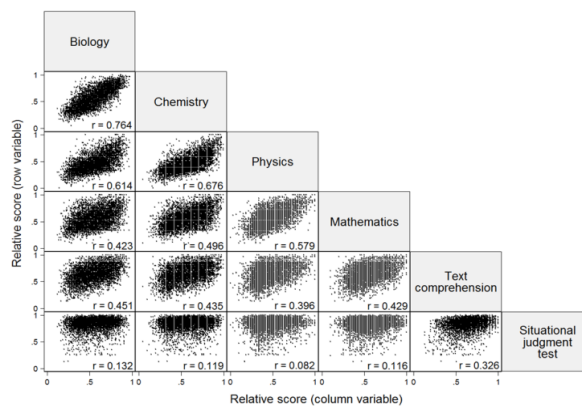
* To examine the relative scores for the various test parts

* To provide an overview on the participants and successful partici-pants according to sex and nationality

* To examine the perfomance of women and men in the various test parts

Results

* The highest mean indices of dis-crimination were found for the knowledge test part. The least discriminatory test part was, with the exception of 2011, the SJT.

* A strong correlation between biology and chemistry and moderate correlations between the other test parts except SJT is obvious. The relative scores are not symmetrically distribu-ted.

* There are consistently more women than men among appli-cants. Among successful candidates, men consistently outweigh women.

* Men perform better in physics and mathematics. Women perform better in the SJT part.

Discussion

This study permits the following basic conclusions for the admission process at the Medical University of Graz:

Male applicants obtain consistently better results than female participants, particularly in the natural scientific subjects [5, 6].

In the SJT, female applicants obtain slightly better results than male test subjects. Whetzel et al. [4] arrive at the same finding as well, and describe the female advantage in SJT performance as minute (d = - .11). However, the greater the personality loading of the SJT (notably agreeableness and consci-entiousness) was, the greater was the advantage for women [3,4].

The cognitive loading of the performed SJTs points to the low correlation between the SJTs and cognitive abilities.

Conclusion: Adding the SJT part into the admission test, in order to cover more than only knowledge and understanding of natural sciences among the applicants has been quite successful.

References
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