

XXVII SCIENTIFIC CONFERENCE

# EMPIRICAL STUDIES IN PSYCHOLOGY

13 – 16<sup>TH</sup> MAY, 2021.

FACULTY OF PHILOSOPHY, UNIVERSITY OF BELGRADE

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INSTITUTE OF PSYCHOLOGY  
LABORATORY FOR EXPERIMENTAL PSYCHOLOGY  
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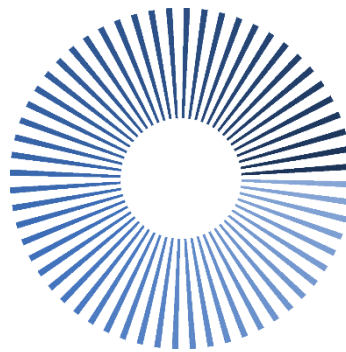
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TUNING FORKS (E. Zimmermann, Leipzig – Berlin)

Instruments for generating tones of a given frequency. They are used in studies of auditory sensitivity for determining the differential, absolute and upper thresholds. Figure shows a set of three tuning forks generating the C-major chord, each fork generating the tones of 256 Hz (c<sup>1</sup>), 320 Hz (e<sup>1</sup>), and 384 Hz (g<sup>1</sup>) respectively. The forks were tuned to the pitch of the originals from the German Physico-Technical Imperial Institute (Phys.-techn. Reichsanstalt).

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## DIFFERENCES IN MENTAL TOUGHNESS OF ATHLETES

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Mental toughness is a crucial attribute for success in competitive sport. Mental toughness of athletes is an unshakeable perseverance and conviction towards goal despite pressure or adversity. Mentally tough athlete has a high sense of self-belief and an unshakable faith that they control their own destiny, these individuals can remain relatively unaffected by competition and adversity. The aim of this research was to analyze the relations between mental toughness of athletes and their gender, age, type of sports, and years spent in sport training. The sample consisted of 64 athletes, 57.8% men, 62.5% athletes of individual sports, 56.3% athletes who train less than 10 years, 71.9% athletes who are younger than 30 years. The Sports Mental Toughness Questionnaire, which was used to assess participants' mental toughness, is a 14-item tool that measures total mental toughness (Cronbach's alpha  $\alpha = .92$ ). The participants had to respond to items on a four-point Likert-type scale ranging from 1 - "not at all true" to 4 - "very true". Men had higher scores than women on mental toughness (Cohen's  $d=0.76$ ,  $t(62)=3.05$ ,  $p<.001$ ). These differences could be due to different socialization processes of men and women. Results showed that athletes of team sports were mentally tougher (Cohen's  $d=0.67$ ,  $t(62)=-2.62$ ,  $p<.05$ ) than athletes of individual sports. Possible explanation of these differences is that athletes of team sports usually have social support from other team members and athletes of individual sports can't rely on others. Difference between athletes who are younger than 30 years and athletes who are older than 30 years in mental toughness was not statistically significant ( $t(62)=-0.12$ ,  $p=.94$ ). Also, trend-level differences between athletes who train less than 10 years and athletes who train more than 10 years in mental toughness were not statistically significant ( $t(62)=-1.78$ ,  $p=.08$ ). Therefore, it seems that learning experiences and/or biological changes are not reflected in changes in the mental toughness. Finally, age and years of experience were relatively highly correlated ( $r=.60$ ,  $p<.001$ ). Overall, the results suggest that there is a space to increase mental toughness of women and athletes of individual sports by systemic work.

**Keywords:** mental toughness, athletes, sex, age, years of training

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## NEW MEASURE OF SECONDARY TRAUMATIZATION: PSYCHOMETRIC PROPERTIES AND EXTERNAL VALIDITY OF SECONDARY TRAUMATIZATION QUESTIONNAIRE (STQ)

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Secondary traumatization (ST) is a condition that results from prolonged exposure to traumatized individuals and which mimics symptoms of post-traumatic stress disorder (PTSD). Even though ST is conceptually linked to PTSD none of the existing measures of this construct proved to cover its manifestations in a manner that would correspond to any of the prominent models of PTSD. Thus, the present study aims to develop, psychometrically evaluate, and validate a new self-report measure of ST that would rely on DSM-5 criteria for

PTSD. A total of 223 professionals (age range 22–65 years,  $M=38.99$ ,  $SD=11.12$ ; 74.9% females) working directly with traumatized individuals, i.e., refugees, migrants, and asylum seekers by providing different services and assistance participated in the study. They completed a newly developed 20-item Secondary Traumatization Questionnaire (STQ) relying on DSM-5 symptoms of PTSD (intrusions – five items, avoidance – two items, negative alterations in cognitions and mood (NACM) – seven items, hyperarousal – six items); a single-item measures of depression and anxiety; 12-item self-perceived quality of life (QoL) ( $\alpha=.86$ ), and Copenhagen Burnout Inventory ( $\alpha=.91$ ). STQ showed high indices of item sampling adequacy ( $KMO=.98$ ), internal consistency ( $\alpha=.91$ ), and homogeneity ( $H5=.71$ ). Six concurrent models of the latent composition of STQ were examined – a single factor model, four-factor models (DSM-5, Dysphoria), five-factor model (Dysphoric arousal), and six-factor models (Anhedonia, Externalizing behaviors). Except for a single-factor, all other models demonstrated fair fit indices, with the four-factor DSM-5 model [ $\chi=317.21$ ,  $p<.001$ ,  $CFI=.91$ ,  $TLI=.89$ ,  $SRMR=.057$ ,  $RMSEA=.065$  (.054-.076)] being empirically the most adequate one. Factors of intrusions, avoidance, NACM, and hyperarousal were significantly related to depression ( $r=.22-.53$ ,  $p<.01$ ), anxiety ( $r=.29-.59$ ,  $p<.01$ ), QoL ( $r=-.21-.39$ ,  $p<.01$ ), and burnout ( $r=.33-.56$ ,  $p<.01$ ). Additionally, STQ demonstrated incremental value in predicting depression [ $R=.15$ ,  $F(4,217)=12.27$ ,  $p<.001$ ], anxiety [ $R=.17$ ,  $F(4,217)=14.94$ ,  $p<.001$ ], and QoL [ $R=.06$ ,  $F(4,217)=4.38$ ,  $p=.002$ ] over and above burnout [ $R=.17$ ,  $F(1,221)=45.59$ ,  $p<.001$ ;  $R=.21$ ,  $F(1,221)=56.94$ ,  $p<.001$ ;  $R=.15$ ,  $F(1,221)=40.33$ ,  $p<.001$ , respectively]. The psychometric quality of a newly developed STQ, comparability of its latent composition with PTSD symptom clusters, and its usefulness in the prediction of relevant mental health outcomes is discussed.

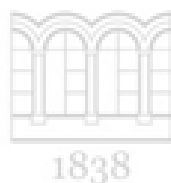
**Keywords:** secondary traumatization, secondary trauma, Secondary Traumatization Questionnaire (STQ), Posttraumatic Stress Disorder (PTSD)

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