Ultra-Running and Emotional Intelligence
Dataset Introduction

Abstract

100 km ultra-marathons are increasingly popular among endurance athletes which, given the extreme distance and associated physical demands, raises the question of the role of emotional preparedness. This dataset is that of Samtleben (2021), who investigated the role of emotional intelligence (EI) on participants' 100km ultra-marathon personal best times in multiple predictor analyses that adjusted for physical preparedness, age, and sex at birth. The sample size is n = 288 and there are p=10 variables. Measures of EI in this data include scores from three scales measuring EI: 1) the Trait Emotional Intelligence Questionnaire Short Form; 2) the Situational Test for Emotional Management Brief; and 3) the Situational Test for Emotional Understanding Brief. There are some missing values.

Background

Emotional intelligence (EI), as defined by the American Psychological Association Dictionary of Psychology, is "the ability to process emotional information and use it in reasoning and other cognitive activities" (American Psychological Association, 2023). Extensive research on EI has yielded several models of EI. Their application has provided important insights into the role of EI in many aspects of our lives, including professional success, leadership, and success in interpersonal relationships. Recent research has also explored the role of EI in sports performance and, in particular, the role of EI in the performance of extreme endurance sports. An example is 100 km ultra-runs, which can reasonably be expected to elicit very strong emotions and a desire to quit. Samtleben (2021) investigated this question in a study of n=288 runners completing 100 km ultra-marathons using the tripartite model of emotional intelligence (Tripartite-EI; Mikolajczak, 2009).

Briefly, the Tripartite-EI model posits that EI operates on three levels – knowledge, ability, and trait: 1) knowledge represents what we know about our own and others' emotions, their source and how to manage them; 2) ability represents our skill at implementing our emotional knowledge in real time; and 3) trait represents our habitual patterns of responding to emotion. An illustration of this concept is a driver who becomes angry after being cut off by another driver. *Knowledge* is the driver's awareness that such anger is often an over-reaction to fear caused by a near miss. *Ability* reflects whether the individual can use that knowledge to modify their natural angry response and avoid shouting at the other driver. In this illustration, if the driver habitually ignores such knowledge and ability and instead shouts at other drivers who cut them off, that habitual response pattern is their *Trait* response.

Study Objective

The study objective was to determine if Tripartite-EI had a statistically significant contribution to the prediction of 100 km ultra-marathon personal best times after adjustment for age, sex at birth and physical preparedness. Ancillary analyses sought to identify any mediating variables of the relationship between 100 km ultra-marathon personal best times and Tripartite-EI.

Study Design

The study utilized a cross-sectional design with N = 288 consenting participants and was approved by the Trent University Research Ethics Board.

Subjects & Variables

Subjects were N=288 consenters recruited online through raceroster.com, Facebook, Reddit, and Strava. There were no exclusion criteria. The final model contained n = 125)

There are p=10 variables:

- variables 1-7 are measures of demographics and physical training
- variable 8 is the Emotional Intelligence score, defined as the average of the 30 items of the Trait Emotional Intelligence Questionnaire Short Form (Salovey & Mayer, 1990)
- variable 9 is the Situational Test for Emotional Understanding Brief score, defined as the total of the 19 items in this assessment (Allen et al, 2015)
- variable 10 is the Situational Test for Emotional Management Brief score, defined as the total of the 18 items in this assessment (Allen et al, 2014)

Additional Information

This dataset is suitable for use in an introductory, applied data analysis course. It can be used to provide experience with several aspects of data management, description and modeling: creation of new variables from preexisting totals, numerical and graphical description, basic univariate tests (e.g., t-test, ANOVA, correlation, simple and multiple regression). More advanced students could explore mediation path analysis and latent variable modeling. Teachers interested in obtaining additional information (including R scripts) are welcome to contact the author. Please note that to reproduce the descriptive statistics from Samtleben (2021) the variable pb100k_time must be used; while to reproduce model parameters the variable pb100k_dec must be used.

Citation(s)

Allen, V. D., Rahman, N., Weissman, A., Maccann, C., & Roberts, R. D. (2015). Development and validation of the Situational Test of Emotional Management–Brief (STEM-B) using item response theory and latent class analysis. *Personality and individual differences*, *81*, 195-200.

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American Psychological Association. (2023, January 29). *Emotional Intelligence*. American Psychological Association Dictionary of Psychology. https://dictionary.apa.org/emotional-intelligence.

Mikolajczak, M. (2009). Going beyond the ability-trait debate: The three-level model of emotional intelligence an unifying view. *Journal of Applied Psychology*, 5, 25–31.

Salovey, P. & Mayer, J. (1990). Emotional intelligence. *Imagination, Cognition and Personality*, (1), 9, 185-211. Link to TEIQ, here: https://www.psychometriclab.com/adminsdata/files/The%20TEIQue-SF%20v.%201.50.pdf.

Samtleben, E. (2021) Ultra-running the Upcoming Sport of the Endurance World: Is Emotional Intelligence Associated with Performance? *Journal of Multidisciplinary Research at Trent,* (3)1,p138-154.

