



Emotional intelligence impact on half marathon finish times

Enrico Rubaltelli^{a,*}, Sergio Agnoli^b, Irene Leo^a

^a University of Padova, Department of Developmental and Socialization Psychology, Via Venezia, 8, 35131 Padova, Italy

^b Marconi Institute for Creativity, Villa Griffone – via dei Celestini, 1, 40037 Sasso Marconi, BO, Italy

ARTICLE INFO

Keywords:

Trait emotional intelligence
Running
Performance
Emotion regulation

ABSTRACT

We investigated how runners' trait emotional intelligence (trait EI) influences their performance. Participants, recruited the day before a half marathon competition, were asked to report their experience and performance in previous races and to complete a trait EI questionnaire. Through a structural equation modeling approach, we demonstrated that runners' trait EI was the main predictor of runners' finish time. Specifically, trait EI emerged as the variable with the highest power to predict finish time over and above training. Overall, these results are consistent with the explanation that being effective at controlling emotions reduces the impact of fatigue and leads to better performance.

As anyone who has taken part in a foot race knows, there is a point during the competition when the effort expended reaches a level at which the desire to slow down (or stop) is perceived as a viable option. It takes great mental strength to keep going despite feeling close to exhaustion, and runners must be able to cope with these feelings to achieve good finish times.

In this study, we investigated how trait emotional intelligence (trait EI) influences performance in a sample of half-marathon runners. Our goal was to show that high trait EI runners, who engage in more effective emotion regulation strategies than low trait EI runners (Laborde, Brüll, Weber, & Anders, 2011; Mikolajczak, Petrides, Coumans, & Luminet, 2009), aim for faster times and achieve a better performance during the race. Trait EI is well-positioned to explain how individual differences in the effectiveness of coping emotional strategies can help overcome the feeling of fatigue experienced during a foot race.

1. Perception of effort and athletic performance

A lively debate is currently ongoing regarding the best model with which to describe the effects of fatigue on athletic performance. In the sport physiology literature, Nokes and colleagues (Noakes, 2012; St Clari Gibson & Noakes, 2004) proposed the central governor model to explain why fatigue arises well before complete muscle recruitment (Tucker, Rauch, Harley, & Noakes, 2004). Specifically, the central governor model relies on internal sensory signals and information from the environment, which are processed below the awareness level to regulate exercise intensity (St Clari Gibson & Noakes, 2004). However, this model has been criticized by both psychologists and sport

physiologists who argued that it lacks psychological plausibility (Inzlicht & Marcora, 2016; Marcora, 2008; Shephard, 2009; Weir, Beck, Cramer, & Housh, 2006). Critics suggest that the central governor model contradicts psychological research on ego-depletion and people's inability to sustain repeated effortful tasks (Baumeister, Vohs, & Tice, 2007). Blanchfield, Hardy, De Morree, Staiano, and Marcora (2014) reported that even slight and subtle motivation can override the controlling function of the central governor, making it useless. Similarly, ample research shows that several deception strategies can be used to trick the brain into exerting more effort (Morton, 2009; Paterson & Marino, 2004; Stone, Thomas, Wilkinson, Jones, et al., 2012). Critics consider these findings a serious limitation of the central governor model, since it cannot execute its controlling function, and so it becomes irrelevant (Inzlicht & Marcora, 2016).

There is also evidence showing that endurance performance decreases when there is higher than normal perceived exertion, although no link was found with the physiological variables traditionally associated with endurance performance (Van Cutsem, Marcora, De Pauw, Bailey, et al., 2017). This conclusion seems consistent with work showing that pacing is basically a process of constant assessment of one's effort (Smits, Pepping, & Hettinga, 2014). This process is likely influenced by an athlete's ability to exert effort despite feeling exhausted, as well as by individual differences in the athlete's ability to manage the negative emotions induced by feeling fatigued.

The focus of this paper is not to show which of these models is the best at explaining fatigue in athletic performance; rather, the relevant point is how both views suggest that people are, indeed, capable of regulating the amount of effort exerted. Psychological models of mental

* Corresponding author.

E-mail addresses: enrico.rubaltelli@unipd.it (E. Rubaltelli), sergio.agnoli@unibo.it (S. Agnoli), irene.leo@unipd.it (I. Leo).

fatigue state that performance decreases when athletes perceive, subjectively, that they are unable to exert more effort (Inzlicht & Marcora, 2016), whereas the last variant of the central governor model states that fatigue can be overridden when there is a motivation to do so (Noakes, 2012). Therefore, both theories recognize the high variability in runners' psychological ability to cope with exhaustion. Here, we explore the psychological substrates responsible for this high variability. In particular, we suggest that trait EI is one of the mechanisms that can differentiate runners who exert effort even when feeling fatigued (Petrides, Pita, & Konakki, 2007).

2. Emotional intelligence

If fatigue is related to the subjective perception of effort and can induce negative feelings, a way to better understand the difference between athletes who push harder and those who give up is by focusing on how people experience emotions. EI is a construct that allows studying individual emotional differences in a comprehensive way (Sevdalis, Petrides, & Harvey, 2007). In particular, this approach maintains that the intelligent use of emotions is essential to explaining both physical and psychological individual adaptation (Extremera & Fernández-Berrocal, 2006).

In this work, we focused on trait EI since we were interested in athletes' stable tendencies in experiencing and managing their emotions. Trait EI is defined as a constellation of emotional perceptions assessed via questionnaires and rating scales, and it is located at the lower levels of personality hierarchies (Petrides et al., 2007). The concept of trait EI proposes that individuals differ in the way they process, use, and manage affect-laden information (Petrides & Furnham, 2003). Essentially, it recognizes the subjective nature of human emotional experience and is concerned with people's perceptions of their own emotional abilities. This construct has explained the incremental variance in different areas of functioning that are beyond higher-order personality dimensions (Andrei, Siegling, Aloe, Baldaro, & Petrides, 2016; Siegling, Vesely, Petrides, & Saklofske, 2015). Moreover, trait EI shows incremental validity in relation to criteria, such as happiness (Chamorro-Premuzic, Bennett, & Furnham, 2007), well-being (Singh & Woods, 2008), and coping and rumination (Andrei, Mancini, Baldaro, Trombini, & Agnoli, 2014). People with high trait EI are also more optimistic than their low trait EI counterparts (Augusto-Landa, Pulido-Martos, & Lopez-Zafra, 2011).

Critically, recent work showed that measuring trait EI could be a more effective way to assess individual differences in emotion regulation compared to studying individual strategies (i.e., reappraisal or suppression; Peña-Sarrionandia, Mikolajczak, & Gross, 2015). Work on EI is outcome-oriented rather than process-oriented and strives to capture the end result of emotion regulation (Agnoli, Pittarello, Hysenbelli, & Rubaltelli, 2015). We feel this approach is consistent with the goal of this study. Peña-Sarrionandia et al. (2015) showed that high trait EI people shape their emotions from the earliest possible stage, do not need to modulate their responses excessively, and are flexible in choosing the appropriate strategy depending on the context.

The trait EI construct can be employed as a framework to explain individuals' variability in relation to affect-related criteria. Behavioral-genetic investigations provided further evidence for the conceptualization of trait EI as an independent personality trait (Vernon, Villani, Schermer, & Petrides, 2008). Trait EI has also been validated by using physiological data. Rubaltelli, Agnoli, and Franchin (2016) found a positive correlation between trait EI and pupil dilation. People with higher trait EI experienced more intense arousal than those with lower trait EI, but they were also able to down-regulate it, and their decisions were less influenced by affective stimuli. Recent work has also shown that trait EI can moderate the effect of arousal on the decision to cheat (Pittarello, Conte, Caserotti, Scrimin, & Rubaltelli, 2017). Finally, measures of heart rate variability in a sample of handball players showed that high (vs. low) trait EI individuals are less sensitive to stress

(Laborde et al., 2011).

3. Hypotheses

According to psychological theories of mental fatigue and self-control failure (Inzlicht & Marcora, 2016), a mechanism must exist that handles how athletes perceive effort. This mechanism could influence how fast athletes decide to start a race or whether they will slow down. Recent work by Smits et al. (2014) on pacing and decision-making supports this conclusion. Further, it has been shown that emotions are central in competition. For instance, runners with high trait EI experience more positive emotions both before and after a race (Lane & Wilson, 2011), and affect has been proposed as the main psychological regulator of pacing strategies (Renfree, West, Corbett, & St Clair Gibson, 2011).

Based on this literature, we explored how runners' emotional intelligence influences their finish time in a half marathon. To test this effect, we also assessed runners' past experience on this race distance, their anticipation abilities, and their training load. Measuring these variables is important to understanding the specific contribution of trait EI to race performance, since it is reasonable to think that finish times are also impacted by training levels and previous experience in similar races. On average, people who train more should be better conditioned to face the demands of a half marathon (Hottentrott, Ludya, & Schulze, 2012). Similarly, runners who have run more half marathons in the past may be better at pacing themselves and achieving faster times. Finally, based on the components included in the central governor model by Noakes and colleagues (St Clair Gibson & Noakes, 2004), who maintain that athletes should show an anticipatory component to their exercise performance (Noakes, 2012), we tested runners' anticipation abilities, asking them to both report the finish time they thought they could achieve in the upcoming race and, more generally, the time they desired to run the half-marathon distance. These performance expectations can have an effect on participants' motivation and can impact their performance during the race depending on how close they are to achieving their goals (Allen, Dechow, Pope, & Wu, 2016).

All these variables were hypothesized to impact the prediction of the finish time, and their interactions were tested through a structural equation model approach. First, we propose that a fundamental process that can influence perception of effort among runners is trait EI. People with high (vs. low) trait EI are better at regulating their emotions (Mikolajczak et al., 2009; Peña-Sarrionandia et al., 2015), perceiving stress as controllable, and using more effective coping strategies (Laborde, Dosseville, Guillén, & Chávez, 2014). Therefore, we expect that runners' trait EI should predict half-marathon finish times. In particular, high trait EI runners should be faster than runners with low trait EI. High trait EI should lead runners to control their perception of effort and achieve faster finish times. Based on individual dispositions in managing and regulating emotional states, we hypothesized that trait EI should be the main predictor of finish times.

Moreover, we hypothesized that the finish time could be predicted by runners' ability to anticipate their final time. Runners' trait EI levels should predict the time they wish to run in the half marathon, defined as their performance aspiration rather than the time they consider achievable in the upcoming race. Since trait EI has been found to be positively correlated with optimism (Augusto-Landa et al., 2011), increasing trait EI should predict more challenging goals in terms of the time runners desire to achieve. Consistent with these findings, Petrides (2010) showed a relationship between trait EI and the hubris quadrant in the belief-importance theory. This finding suggests that well-being is related to the confidence in achieving goals rather than in simply achieving them. Optimism and confidence in achieving goals should lead high (vs. low) trait EI runners to aim for faster times, even at the risk of never achieving them. As a consequence, we hypothesized a negative association between trait EI and the desired time runners wish to achieve in the half marathon. Conversely, we reasoned that the time

Download English Version:

<https://daneshyari.com/en/article/7248823>

Download Persian Version:

<https://daneshyari.com/article/7248823>

[Daneshyari.com](https://daneshyari.com)