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Be Smart, Act Smart:

The Importance of Using Emotional Intelligence in the Athletic Performance Context

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Abstract

The evidence on the relationship between emotional intelligence (EI) and performance outcomes is mixed, with little known about the boundary conditions. Whereas trait emotional intelligence (TEI) is seen as the individual's capability of using their emotional intelligence successfully, emotional performance represents the active enactment of emotional intelligence skills during a performance episode. Assuming that EI represents a trait and needs to be activated through situational factors to be able to benefit performance, the current study explores the potential moderating role of emotional performance and what aspects of EI might be especially relevant for athletes performance satisfaction. Data collected from 89 athletes across various sports revealed significant variability in how EI dimensions relate to performance satisfaction, with regulation dimensions emerging as particularly predictive. None of the TEI scores were significantly associated with performance satisfaction, but a moderation effect was observed for the self-regulation dimension between TEI and emotional performance. Moreover, emotional performance had a direct effect on performance satisfaction for the management of others emotions independent of TEI levels. These findings suggest that high TEI alone is insufficient to predict performance satisfaction in athletes, and the level of enacted emotional intelligence should be taken into account to better understand how emotional intelligence relates to performance outcomes.

Keywords: emotional intelligence, emotional performance, emotion regulation, emotional intelligence enactment, athletic performance, performance satisfaction, sport psychology

Be Smart, Act Smart: The Importance of Using Emotional Intelligence in the Athletic Performance Context

There is no sport competition without emotions. Be it anger, frustration, sadness or excitement, there is no denying that emotions are an integral part of the competitive athletic experience, and competitions in any discipline are able to evoke a rainbow of emotions in the participating athletes (Hanin, 2007; Vast et al. 2010). Moreover, the impact of emotions on athletic performance is not to be underestimated. They are known to influence a wide range of cognitive processes, including our perception, attention, self-confidence, motivation, and motor control (Janelle et al., 2020; Jekauc et al., 2021). If an emotion is seen as beneficial for performance depends on whether they align with task demands, which often differ between sports and performance situations. For instance, sports that require anaerobic power or the quick mobilization of energy have been shown to benefit from higher states of arousal (Hanin, 2007), as well as from arousal-inducing emotions such as excitement, anger, and, in some cases, anxiety (Uphill et al., 2009; Jekauc et al., 2021; Woodman et al., 2009). In comparison, sports that depend on precision and coordination often benefit from a lower arousal state of emotions, as arousal has been shown to negatively impact performance (Uphill et al., 2009). This is one example of how the effect of emotions and the optimal emotion for a performance episode can differ across performance situations. It can also vary between individuals, meaning what emotions one person experiences as useful might not be the same as what their teammate needs in the same situation (Hanin, 2007). In a high-pressure environment such as competitive sports, where even one second can make or break a competition, the ability to perceive emotions and utilize them to enter an optimal state of mind could make the difference between success or failure in a competition.

A concept closely related to the introspection and regulation of emotions is emotional intelligence (EI), a topic that has been gaining increasing interest in the field of sport and

workplace psychology (Koop & Jekauc, 2018). The current study takes a closer look at the relationship between emotional intelligence and sport performance satisfaction with the aim to delve deeper into the circumstances influencing the relationship between emotional intelligence and sport performance to better understand when emotional intelligence might be facilitative for athletic performance. It focuses specifically on the actual enactment of emotional intelligence during sport performance and how this might influence the relationship between emotional intelligence and performance satisfaction.

Defining Emotional Intelligence

To understand how emotional intelligence might be related to athletic performance, one first needs to understand what emotional intelligence actually is. It can generally be defined as the ability to recognize and manage one's own emotions and the emotions of others. In the recent years, Pekaar et al. (2020) have developed a promising multidimensional framework of emotional intelligence that categorizes it across four distinct dimensions.

The first distinction between dimensions of emotional intelligence lies between two core processes: appraisal and regulation. Appraisal refers to the ability to perceive and understand emotions in oneself or others, while regulation involves managing one's own or others' emotions to achieve a specific goal. The latter definition combines the regulation of emotions with the strategic utilization of emotions to attain desired outcomes, both of which have been shown to be closely linked to athletic performance (Koop & Jekauc, 2018; Koop et al., 2021). The distinction is in line with evidence that identifies emotional perception and regulation to show superior incremental validity to other sub-dimensions when compared with general cognitive ability measures (Simonet et al., 2021) and findings that show these two processes to be most predictive for performance outcomes across contexts (Joseph & Newman, 2010; O'Boyle et al., 2011; Sánchez-Álvarez et al. 2020). The second distinction made is the differentiation between whether these processes are directed towards one's own emotions or

the emotions of others. The distinction between other- and self-focused processes has been made in multiple theories of emotional intelligence (Mayer & Salovey, 1997; Elfenbein & MacCann, 2017) and is supported by neurological and evolutionary evidence, showing, for instance, self-awareness and social perception as two distinct mechanisms (Simonet et al., 2021). Taken together, this results in four dimensions of emotional intelligence: (1) self-focused appraisal (SA), (2) other-focused appraisal (OA), (3) self-focused regulation (SR), and (4) other-focused regulation (OR). These four dimensions provide a nuanced framework for understanding how emotional intelligence might contribute to various performance outcomes. Using multiple dimensions in describing emotional intelligence allows researchers to explore the individual patterns in which people are emotionally intelligent and what concrete aspects of emotional intelligence are relevant for different situations. Using a multidimensional framework of EI has empirical evidence supporting its application (Laborde et al., 2016; Castro-Sánchez et al., 2018), and it also allows for more accurate predictions for specific performance outcomes, as well as enabling the development of specifically tailored interventions (Simonet et al., 2021; Laborde et al., 2016; Sukys et al., 2019).

Emotional Intelligence and Performance Satisfaction

Despite a theoretical consensus that emotional intelligence has the possibility to positively impact performance in competitive sports and persistent empirical support for an effect of emotional intelligence on sport performance (Laborde et al., 2016; Koop & Jekauc, 2018; Koop et al., 2021), the size and direction of the relationship are less clear. The effect sizes linking emotional intelligence to performance have been mixed—ranging from weak to moderate to even strong effects—and meta-analyses have reported conflicting results (Koop & Jekauc, 2018; Laborde et al., 2016). On the one hand, in several studies, EI has been shown to be positively associated with athletic performance success (Kopp & Jekauc, 2018; Laborde et al., 2016; Arribas-Galarraga et al., 2019), with it being especially connected to the cognitive

aspects facilitating performance, like increased challenge appraisals and better coping abilities (Laborde et al., 2016; Crombie et al., 2009), as well as being beneficial for problem solving and decision making during competitions (Ubago-Jiménez et al., 2019). On the other hand, there have been a number of studies that found no significant relationship between EI and performance outcomes (Soflu et al. 2011; Dimick, 2017) or even a negative association (Perlini et al., 2006). In some cases, the benefits of EI have been task-specific, enhancing one aspect of performance while offering no advantage—or even a disadvantage—for another (Zizzi et al., 2003). This variability suggests a lack of understanding for when and how emotional intelligence influences performance outcomes and appears more complex than initially assumed.

There are several different conceptualizations of performance outcomes and constructs that aim to measure them, both objective and subjective. One performance outcome variable well-suited for the purposes of this study of exploring the complexity surrounding emotional intelligence is performance satisfaction. Unlike objective metrics, which can be influenced by external factors like team dynamics or opponents, performance satisfaction reflects an athlete's subjective evaluation of their performance under given conditions (Saw et al., 2015; Males & Kerr, 1996; Terry, 1995). While objective performance aspects like the outcome of the competition will undoubtedly influence the performance satisfaction in competitive sport (Theodorakis et al., 2015; De Freitas et al., 2009), an athlete might still feel satisfied with their individual performance unrelated to their team's achievement, for instance through reaching personal goals (Doneva & Domuschieva-Rogleva, 2022). Performance satisfaction aligns well with EI’s focus on cognitive appraisals and emotional regulation, capturing how athletes manage their emotions to adapt and thrive in challenging situations, and has reliably been used to assess athletic success (Laborde et al., 2014; Nicholls et al., 2012). Furthermore, high performance satisfaction is a desirable performance outcome by itself, as it has been shown to be positively linked to long-term outcomes such as well-being and motivation (De

Freitas et al., 2009; Saw et al., 2015), as well as enjoyment of sport (Ignacio et al., 2017). This emphasizes its relevance as a meaningful indicator of success despite its inherent subjectivity. Moreover, emotional intelligence is consistently associated with higher performance satisfaction across various studies (Laborde et al., 2016; Mercader-Rubio & Gutiérrez Ángel, 2023; Koop et al., 2021), making it a valuable construct for understanding athletic outcomes.

While emotional intelligence might provide the foundation for one's potential to recognize, understand, and manage emotions, its connection to performance satisfaction appears to be complex and is likely to be shaped by external factors that influence the strength of their relationship. Most sport psychology research has referred to it as a dispositional capability or characteristic that represents an individual's ability to recognize and use emotions to reach a goal (Pekaar et al., 2018; Koop & Jecauk, 2018). In other words, someone high in emotional intelligence might show greater potential to successfully recognize and use emotions generally, compared to someone low in emotional intelligence. But this potential can only show effect in a situation where they actually apply their emotional intelligence, and this might not automatically be the case for every performance episode. Drawing on the Trait Activation Theory, there is an important distinction to be made between being emotionally intelligent and actively applying emotional intelligence in practice, as the latter depends on situational activation, task demands, environmental influences, as well as motivation (Tett et al., 2021; Ybarra et al., 2014).

Emotional Performance as a Moderator

To refer to the concept of the actual application of emotional intelligence in a real-life context, we use the term ‘emotional performance’. The term is based on the definition of performance made by Portenga et al. (2017) in which performance is characterized as “using knowledge, skills and abilities as distinguished from merely possessing them”. Hence, emotional performance refers to the extent that someone tried to 1) perceive and understand the

emotions of oneself or others and 2) regulate their or others' emotions to reach a goal during a specific performance situation.

A variety of studies have supported the importance of context in the activation of emotional intelligence and its influence on performance outcomes like performance satisfaction (Laborde et al., 2016; Laborde et al., 2011; Jafri, 2018; Ybarra et al., 2014). Moreover, research has shown that there is a difference between the general level of emotional intelligence and the extent to which someone is able to effectively use it during episodic performance (Ybarra et al., 2012; Ma et al., 2021; Pekaar et al., 2017), and these fluctuations in emotional enactment appear to be more predictive of performance outcomes than trait emotional intelligence (TEI) measures (Pekaar et al., 2017). This enactment of emotional intelligence was only weakly correlated to TEI levels (Pekaar et al., 2018), suggesting that they are two separate concepts with differing effects. This highlights the need to consider the actual application of emotional intelligence-related skills when exploring its relationship with performance, with the impact of emotional intelligence possibly depending on whether an individual uses their emotional skills during high-pressure or dynamic scenarios. Building on these insights, we propose that while the general level may indicate the potential performance benefits one might derive from their emotional intelligence, the extent to which these benefits are realized depends on the extent to which emotional abilities are utilized during performance episodes. An individual with high TEI may exhibit a weaker link between emotional intelligence and performance outcomes if they fail to actively engage their emotional intelligence during critical moments. Conversely, an individual with lower TEI could achieve higher performance satisfaction if they successfully apply their emotional skills during competition. Accordingly, our first hypothesis is that emotional performance moderates the relationship between trait emotional intelligence and performance satisfaction.

Moreover, we propose that this relationship is particularly relevant for the regulation dimensions, which we hypothesize to be strong predictors of performance satisfaction. By definition, emotional performance should be especially relevant for the regulation dimensions of trait emotional intelligence, as the "regulation of emotions to reach a goal" implies an intentional implementation of a skill. This has been supported by meta-analyses that found emotional regulation to be distinct from other dimensions, more closely resembling a capacity that can be tapped when it is needed (Simonet et al., 2021). Through this, regulation can be seen as the driving force behind the positive relationship of emotional intelligence with performance outcomes (Simonet et al., 2021), as both regulation dimensions have consistently been linked to more successful performance in the sport context (Araya et al., 2001; Sukys et al., 2019; Castro-Sánchez et al., 2018).

Appraisal, on the other hand, might be less influenced by the situational activation, as the perception of emotions might be a more basic and automatic process that is a necessity but not a determinant of the more complex cognitive skill of regulation: one has to perceive emotions to be able to regulate them, but appraisal does not automatically lead to the intention of regulation (Pekaar et al., 2020; Meyer & Salovey, 1997; Gross, 1998). This might be more relevant for other-focused regulation, as the success in regulating others emotions might be more dependent on accurately perceiving them first, whereas regulatory processes like self-control might be less dependent on the successful perception of one's own emotions (Elfenbein & MacCann, 2017).

Taken together, this study aims to take a step closer to bridging the gap in our theoretical understanding of the relationship between emotional intelligence and sport performance and to shed light on the role the active implementation of emotional skills might play. This perspective is particularly relevant to sport psychology, as it highlights the potential for training and development programs to enhance performance satisfaction regardless of an

athlete's dispositional emotional intelligence. Such programs could equip athletes with tools to better leverage their emotional abilities during performance episodes. If emotional performance is the key to unlocking performance benefits provided by emotional intelligence, all athletes would benefit from such training. It would allow all athletes, both high and low in emotional intelligence, to realize their full potential.

As emotional performance is likely influenced by external factors such as demographics and context, we will next discuss variables that have been shown to be related to emotional intelligence.

Influences on Emotional Intelligence: Demographics and Context

There have been a number of demographic variables identified to be related to the general level of emotional intelligence. Age has consistently been associated with emotional intelligence (Doerwald et al., 2016; Pekaar et al., 2020), as well as competition level (Koop & Jekauc et al., 2018; Arribas-Galarraga et al., 2019), with older or more elite athletes scoring higher in emotional intelligence domains, especially regulation (Mon-López et al., 2023; Laborde et al., 2014). The evidence on differences in emotional intelligence between genders is extremely mixed, with no consistent effect and opposing results (Laborde et al., 2016; Castro-Sánchez et al., 2018; Mon-López et al., 2023). Furthermore, gender effects were found to be mediated by age and disappeared when this was controlled for (Fernández-Berrocal et al., 2017). Overall, there seems to be no significant difference in emotional intelligence between team and individual sports (Mon-López et al., 2023; Kajbafnezhad et al., 2011; Ghaderi & Ghasemi, 2012), even though it has been suggested that EI is particularly relevant for contact sports (Castro-Sánchez et al., 2019), which can be defined as sports where physical contact with peers and adversaries is an essential and permitted as part of the gameplay (Castro-Sánchez et al., 2019). This could be because the competition success in contact sports is partly

dependent on the performance of other athletes, so the ability to understand and manage the emotions of others might be more relevant.

But not only demographic variables are likely to influence emotional intelligence. A novelty of the emotional intelligence framework by Pekaar et al. (2020) is the focus on the situational aspects influencing the actual application of emotional intelligence. For an individual to be motivated to use their emotional intelligence, there needs to be a cue that triggers emotional processing and an emotional episode (Pekaar et al., 2020). This cue can either be an internal or external event, such as a game penalty or the emotional expression of someone else. Without the situational trigger, emotional intelligence will not be activated. Beyond the activation, the importance and effectiveness of emotional intelligence application might differ depending on situational contexts. The emotional valence of the episode might play a role, as emotional intelligence is likely to be most relevant in emotionally taxing situations (Pekaar et al., 2020), and negative emotions such as fear or guilt lead to a greater need for emotional coping and regulation (Barret et al., 2001). Moreover, the effectiveness of emotional intelligence might be dependent on the focus within the emotional performance episode, meaning whether the enactment of emotional intelligence is focused on the emotions of oneself or others. There is evidence that when emotion processing and management are done simultaneously for themselves and others, they are less strongly connected with positive performance outcomes (Pekaar et al., 2017). Situations might also differ in their need for other- or self-focused appraisal and regulation, with other-focused emotional intelligence being more relevant for interpersonal performance (Pekaar et al., 2017; Mueller & Curhan, 2006), whereas self-focused performance is more influential for intrapersonal performance (Pekaar et al., 2018).

Due to the potential impact of demographics and context, additional analyses will be conducted to check whether the research models hold when statistically controlling for these variables.

Methods

Participants and Procedure

Entry requirements for participating in the study were a) being an active athlete, b) currently participating in competitions, c) where social interaction is part of the competitive performance episode and a relevant element directly influencing the acute individual performance of an athlete. The last entry requirement includes all contact and limited-contact sports, for which there is direct interaction with one's opponents and/or direct contact with one's teammates. It also includes all match-based sports, where the performance of one's opponent directly influences the personal performance outcomes, such as non-contact sports like tennis or badminton. Sports that were excluded were non-contact team and individual sports, which entail no direct social interaction during an active competitive performance episode. Examples for this would be gymnastics, swimming, or relay races, for which the performance of others does not directly influence the performance of the athlete, only the performance outcome.

Minding the entry requirements, competitive sports teams were personally approached at sporting facilities in Groningen and asked to participate. The questionnaire was made accessible online through the survey platform Qualtrics (Qualtrics, 2020). They were informed about the topic and format of the study, and when expressing interest in participating, they were provided a QR code for the online questionnaire. This link was often subsequently shared through social media with other athletes of their team or association. When choosing teams to approach, the type of sport and their competitive level were taken into account, giving preference to teams competing at higher levels. Additionally, the link was

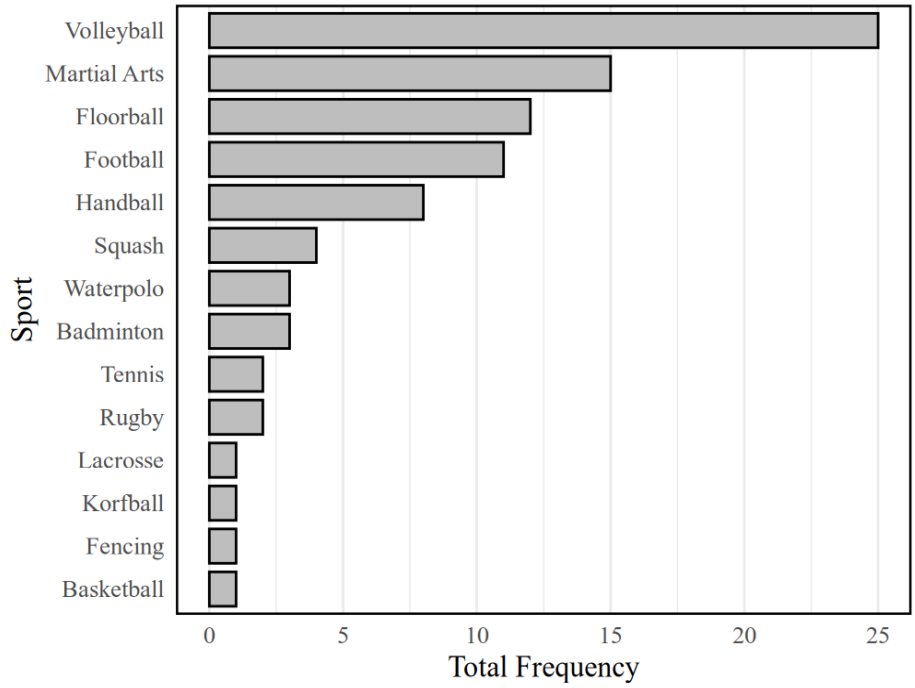
distributed through social media channels, as well as through posters (see Appendix C) that were put up at various university buildings of the University of Groningen.

The online questionnaire was completed by a total of 100 athletes. The data of three participants was omitted from the data, as they were underage. Additionally, the data of eight more participants were removed from the dataset as they did not meet the inclusion criteria (n = 3), were non-competitive (n = 3), or because they did not follow the instructions of the questionnaire correctly (n = 2). That left the data of 89 participants, of which 52.8% were female. The mean age was 25 years (SD = 6.31), ranging from 18 to 56 years. Of the 89 participants, 67.42% were of Dutch nationality, 20.22% were German, and 12.36% indicated 'other' for their nationality. The participants were athletes from a wide range of disciplines, but mostly team sports (76.4%). The most common sport was volleyball (28.09%), followed by martial arts (16.85%) and floorball (13.48%) (Figure 1). The general level of competition of this sample was relatively low, with more than half of the sample playing on a regional level (52.8%). More than a third of the athletes played on the national level (40.5%), with 15.7% of the sample playing at the national top tier. About 6.74% of the sample were competitive athletes on the international level. The mean duration of how long they practiced their sport competitively was around 12 years, with a minimum duration of three months and a maximum duration of 50 years.

The participants received no form of compensation in exchange for their participation but could indicate further interest in receiving tips about improving their emotional intelligence.

Figure 1

Total Frequency of Sports in the Sample of Athletes (N=89).



Materials

Participants were presented with the informed consent form (see Appendix A) at the beginning of the study. The questionnaire was available in both Dutch and English. Both the REIS and the EPQ provided an official English and Dutch version of the scale. Additional texts and items were translated and peer-reviewed for translational accuracy.

Trait Emotional Intelligence

Trait emotional intelligence (TEI) was assessed using the Rotterdam Emotional Intelligence Scale (REIS), which was developed by Pekaar et al. (2018) in line with their framework of emotional intelligence. The REIS consists of 28 items, seven items for each of the four dimensions of emotional intelligence with very good internal consistency (SA (α = .82), SR (α = .85), OA (α = .91), OR (α = .86)). The official version by Pekaar et al. (2018) is rated on a five-point Likert Scale (Strongly Disagree to Strongly Agree), with higher scores indicating a higher emotional intelligence. To make the comparison with the scale for

emotional performance more precise and to allow for more nuance in the answers, the scale was adapted to a seven-point Likert-Scale in this questionnaire. The dimensions were presented in their original order, with appraisal preceding regulation, reflecting the hypothesized cognitive sequence in which these processes occur. However, the order of the items within each dimension was randomized.

Emotional Performance

Emotional performance (EP) was measured using the Emotional Performance Questionnaire (EPQ), a scale that is currently being developed by Buurma et al. (2025), which has shown promising results on validity and reliability in pilot studies. It is to this date the only available questionnaire on emotional performance. Furthermore, it is based on the theoretical framework developed by Pekaar et al. (2020), making it compatible for comparing and exploring the relationship between scales. The EPQ consists of 20 items, five items for each dimension of emotional intelligence (SA (α = .90), SR (α = .95), OA (α = .91), OR (α = .92)). It is rated on a 7-point Likert scale (strongly disagree – strongly agree). Similar to the REIS, the dimensions were presented in their original order, but with the items within each dimension being randomized. The EPQ takes the unique approach that it asks the participant to refer back to a recent, specific performance episode in which some form of social interaction took place, and the items aim to explore the extent to which they used their emotional intelligence in this specific situation. Higher scores indicate a higher level of emotional performance during this episode.

Performance Episode Characteristics

In addition to investigating the relationship of emotional intelligence and emotional performance with performance satisfaction, we explored the possible influence of contextual factors. As part of the EPQ, they were asked to describe the performance situation they chose for this part of the questionnaire in three sentences. This provided insight into the situational

factors present, which were taken into account by checking for potential influences they might have. They were asked about the outcome of the competition that the performance situation took place as well as the point in time the performance situation took place. This resulted in five timepoint categories: 1) This week, 2) This month, 3) In the last three months, 4) In the last six months, and 5) Longer ago. Furthermore, the performance situations described by the athletes were sorted into categories using a bottom-up approach. All performance episodes were inspected, and categories were created by drawing on reoccurring main themes of emotionally relevant situational factors. The categories were peer-reviewed and revised multiple times to narrow it down to the smallest possible number of categories. This process left nine categories, namely: poor performance, referee decision, coach decision, focus on performance, improving others performance, penalty/foul, performance anxiety, and poor teammates performance. Additionally, the performance episode was coded across three dimensions: valence, cue, and focus. For all three variables, the reference point that was seen as the acting subject could be a single individual or the team as a whole if they described the performance situation from a ‘we’ perspective and the team as an acting unit.

Valence. This variable describes the emotional valence of the emotions needed to be managed or promoted during the performance episode. A situation was either coded positive or negative, depending on what the goal of emotion management was. If the goal was to promote or maintain positive valanced emotions, such as excitement or calm, in oneself or others, the variable was coded positive. If emotion management was used to manage the negative emotions (i.e., anger or frustration) of oneself or others or promote negatively valanced emotions in the opponent, the situation was coded as negative. This also included situations in which the participant promoted positive emotions in response to experiencing/appraising negative emotions in an attempt to manage them.

Cue. The cue variable refers to what triggered the emotional event, an internal or external cue. Internal cues were defined as situations in which they were the acting agents responsible for the emotional event or prepared themselves for an action (e.g., making a mistake or focusing on their performance). An external cue refers to an event that happened to them in which they were not the acting force behind it, but the emotional episode was triggered by an external factor, such as a foul or referee decision.

Focus. This variable relates to whether the focus of the individual's emotional management was directed towards themselves, others around them, or both. Self-focus refers to situations in which the focus was on managing their own emotions in response to an event, opposite to episodes in which they were primarily focused on managing the emotions of others around them, be it a teammate or an opponent. In some situations, both were the case, and they were coded as such.

Performance Satisfaction.

To rate their performance satisfaction, the volleyball players were asked to rate how satisfied they were on a scale from zero to ten (0 = extremely dissatisfied to 10 = extremely satisfied) with their overall sport performance during the match in which the performance episode took place.

Data Analysis

Power Analysis.

To determine an adequate sample size, the statistical power analysis program G*Power 3.1 was used. The input parameters were *F*-tests, linear multiple regression fixed model R^2 increases, medium effect size = 0.25, α error probability = 0.05, power (1-β error probability) = 0.80, tested predictors = 3 (TEI, EP, and interaction), and total number of predictors = 8 (control variables). This resulted in a required sample size of 77. To detect

interaction effects, a larger sample size is often necessary; therefore, it was aimed to gather more data, resulting in a final sample size of 89. This resulted in an actual power of 0.86.

Outliers and Assumptions

Multiple regression and moderation analysis were performed using R and RStudio (R Core Team, 2024; Posit Team, 2024). Prior to further analysis and inferential testing, data was screened for outliers and violation of assumptions. Outliers were identified by calculating z-scores and screening for all observations that fell more than three standard deviations above or below the mean. Three data points were considerably older than the rest of the sample, and one outlier showed a considerably lower overall REIS score. When examining the outliers, there was no theoretical reason to exclude the data, so the observations remained in the dataset. Checking Assumptions of normality, linearity, homoscedasticity, and multicollinearity were evaluated and found to be satisfactory for this analysis. Normality and homoscedasticity were mildly violated in some of the variables, and statistical procedures were adjusted accordingly by using more robust measures. In these cases, *Mann Whitney U Tests* were applied instead of standard *t*-tests, and *Kruskal-Wallis Tests* were used instead of independent *ANOVA*. Measures for effect sizes and post-hoc tests were adjusted to fit the applied statistical test. Moderation analysis was done using multiple regression, as it is relatively robust against normality violations and heteroscedasticity.

Results

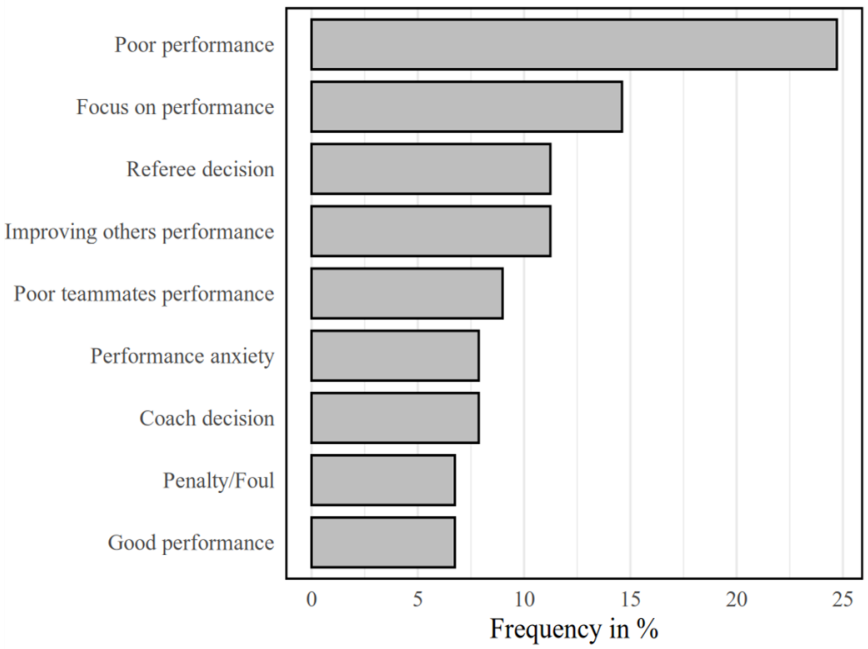
Descriptive Statistics

Performance Episode Characteristics.

Poor performance was the most frequent theme of the performance episode (24.7%) followed by focusing on one's performance (14.6%) (Figure 2).

Figure 2

Frequency of Situational Themes of the Chosen Performance Episode



Most athletes chose a performance situation that occurred in the last month but not within the last week (56.2%), and around 16.9% chose a situation that occurred within the last week. The remaining performance situations took place longer than a month ago, with 15.7% occurring still within the last six months and 11.2% taking place longer ago. The majority of the athletes chose a performance episode that took place during a competition that they've won (51.7%). Of the remaining half, around 41.6% chose an episode that occurred during a losing competition, and 6.7% chose a competition that resulted in a tie.

Participants most often chose a performance situation in which they had to manage negative emotions (78.8%), and the majority of chosen emotional performance episodes were caused by an internal factor (59.6%). For positively valanced situations (n = 26), almost all except one were caused by an internal factor (96.2%). For negatively valenced situations (n = 63), it was more equally distributed and even slightly more likely to be triggered by an external event (55.6%).

The object of emotional management was oneself in 69.7% (n = 62) of the chosen performance situations. In 17.4% (n = 16) of cases, the athletes focused both on their own emotions and the emotions of others, and in only 12.4% (n = 11) of situations was the focus solely on managing the emotions of someone else.

Emotional Intelligence and Emotional Performance

Table 1 presents all means and standard deviations of the individual emotional intelligence and performance scores. Applying a *Wilcoxon Signed Rank Test* and paired *t*-tests showed the average emotional performance of the sample to be significantly lower than the overall emotional intelligence score (W = 3302, p < .001), with athletes scoring significantly lower for emotional performance across all EI dimensions (ps < .001, see Table 1), except self-regulation (W = 2366.5, p > .05). For trait emotional intelligence scores, athletes scored significantly higher on self-appraisal than both self (t(88) = 4.63, p < .001) and other-focused regulation (t(88) = 5.50, p < .001). The same was true for other-appraisal, with higher scores than both self-focused regulation (t(88) = 3.98, p < .001) and other-focused regulation (t(88) = 5.70, p < .001) as well. With regard to emotional performance dimensions, athletes scored significantly lower in other-focused regulation than all three other dimensions (ps < .001, see Table 1).

Furthermore, none of the trait emotional intelligence dimension scores correlated significantly with performance satisfaction (Table 1). For emotional performance, only the regulation dimensions were significantly and positively associated with performance satisfaction.

Appendix C summarizes significant associations between contextual variables and performance satisfaction, as well as significant associations with trait emotional intelligence or emotional performance.

Table 1

Means, standard deviations, and correlations of emotional intelligence, emotional performance and the dependent variable (n = 89).

Variable	*M*	*SD*	1	2	3	4	5	6	7	8	9	10
1. TEI_SA	5.41	0.81										
2. TEI_SR	4.90	1.02	.38**									
3. TEI_OA	5.39	0.89	.57**	.26*								
4. TEI_OR	4.93	0.80	.47**	.26*	.59**							
5. TEI total	5.15	0.66	.79**	.67**	.79**	.75**						
6. EP_SA	4.53	1.46	.29**	.01	.20	.12	.20					
7. EP_SR	4.44	1.61	.29**	.14	.24*	.23*	.30**	.05				
8. EP_OA	4.53	1.67	.32**	.04	.32**	.24*	.30**	.31**	.31**			
9. EP_OR	3.69	1.58	.18	-.08	.13	.21	.13	.06	.45**	.55**		
10. EP total	4.30	1.09	.39**	.05	.33**	.29**	.34**	.49**	.67**	.80**	.76**	
11. Satisfaction	6.54	2.03	.08	-.03	-.04	.08	.02	-.02	.27*	.04	.25*	.20

Note. The table portrays the pearson correlation coefficient for the associations of each subdimension – self-appraisal (SA), self-regulation (SR), other-appraisal (OA), other-regulation (OR) – of trait emotional intelligence (TEI), emotional performance (EP) and the dependent variable performance satisfaction.
* indicates $p < .05$. ** indicates $p < .01$.

Testing Hypotheses

Moderation Analysis

To test the hypothesis that emotional performance moderates the relationship between trait emotional intelligence and performance satisfaction, four moderation analyses using multiple regression were conducted (Table 2). Each model included one of the primary dimensions of emotional intelligence—self-appraisal, self-regulation, other-appraisal, and other-regulation—as well as the corresponding emotional performance dimension and their interaction term. To account for the potential influence of contextual and demographic variables, each model was also tested including covariates. Covariates were chosen based on their theoretical importance and empirical relevance in the prior analysis (see Appendix C).

Self-Appraisal. Neither emotional intelligence (TEI), emotional performance (EP), nor their interaction emerged as significant predictors of performance satisfaction ($F(3,85) = 0.28$, $p > .05$; see also Table 2). This result did not change after including relevant covariates (Appendix D), suggesting that with or without accounting for situational factors, self-appraisal holds limited importance for predicting performance satisfaction.

Self-Regulation. Although the overall model was not explicitly significant ($F(3,85) = 2.60$, $p > .05$, see Table 2), the self-regulation dimension of emotional performance showed a significant main effect on performance satisfaction ($\beta = 0.26$, $p < .05$, see Table 2). Neither trait emotional intelligence scores ($\beta = -0.04$, $p > .05$) nor it's interaction with emotional performance ($\beta = 0.07$, $p > .05$) showed significant main effects. However, when covariates were added to the model ($F(9,79) = 4.23$, $p < .001$), the interaction term became a significant predictor of performance satisfaction ($\beta = 0.19$, $p < .05$), while TEI ($\beta = 0.05$, $p > .05$) and EP ($\beta = 0.10$, $p > .05$) showed no significant main effects (see Appendix D).

Table 2

Regression results of the moderation analyses of each emotional intelligence and performance dimension (N = 89).

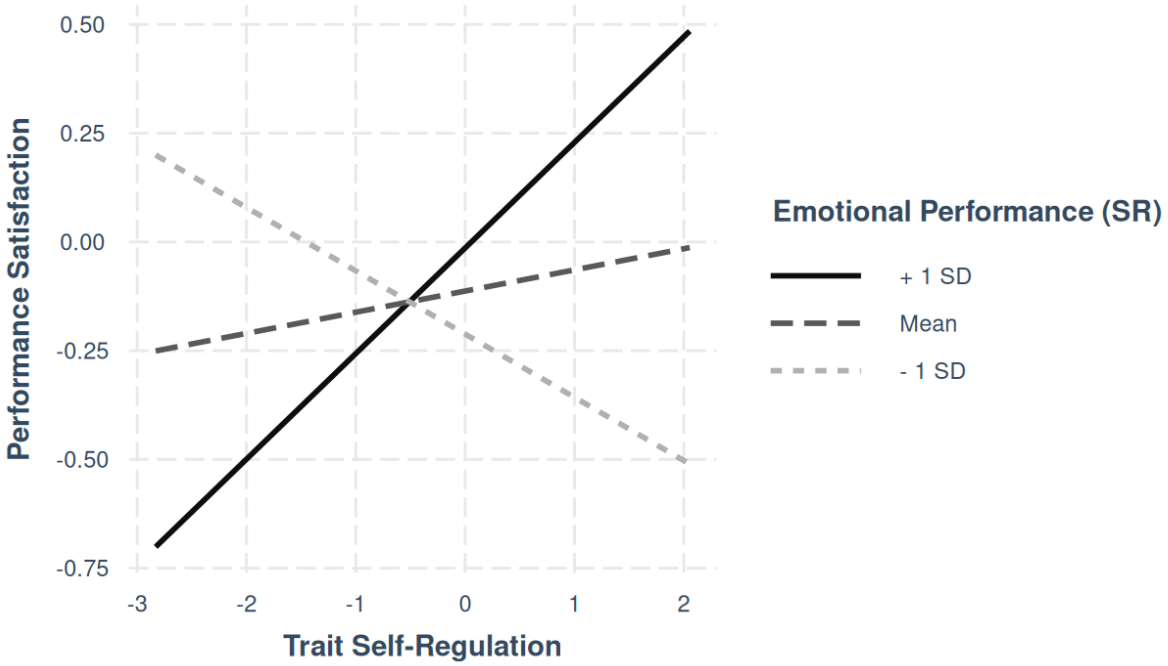
Predictor	β	β 95% CI		*SE (β)*	sr^2	sr^2 95% CI		*Fit*
		LL	*UL*			*LL*	*UL*	
Self-Appraisal								
(Intercept)	-0.01	-0.23	0.21	0.11				
TEI_SA	0.11	-0.14	0.36	0.13	.01	-.03	.05	
EP_SA	-0.05	-0.28	0.17	0.11	.00	-.02	.02	
Interaction	0.04	-0.16	0.23	0.04	.00	-.02	.02	
								$R^2 = .01$
Self-Regulation								
(Intercept)	-0.01	-0.22	0.20	0.10				
TEI_SR	-0.04	-0.26	0.18	0.11	.00	-.01	.02	
EP_SR	0.26*	0.05	0.48	0.11	.06	-.03	.16	
Interaction	0.07	-0.12	0.27	0.10	.01	-.02	.04	
								$R^2 = .08$
Other-Appraisal								
(Intercept)	0.05	-0.17	0.27	0.11				
TEI_OA	-0.10	-0.34	0.13	0.12	.01	-.03	.05	
EP_OA	0.05	-0.17	0.28	0.11	.00	-.02	.02	
Interaction	-0.15	-0.33	0.04	0.09	.03	-.04	.10	
								$R^2 = .03$
Other-Regulation								
(Intercept)	0.02	-0.19	0.23	0.11				
TEI_OR	-0.00	-0.22	0.22	0.11	.00	-.00	.01	
EP_OR	0.26*	-0.04	0.47	0.11	.06	-.03	.16	
Interaction	-0.08	-0.26	0.11	0.09	.01	-.03	.04	
								$R^2 = .07$

Note. Beta represents the partially standardized regression coeffient and sr² represents the squared semi-parial correlation.
** indicates p < .05. ** indicates p < .01 *** indicates p < .001.*

Figure 4 presents a simple slope analysis, indicating that the relationship between trait self-regulation and performance is positive when levels of emotional performance are high, but negative for low levels of emotional performance.

Figure 4

The relationship between performance satisfaction and trait self-regulation at different levels of emotional performance self-regulation.



Note. All variables were standardized before plotting (M = 0, SD ± 1).

Other-Appraisal. Neither trait emotional intelligence (TEI), emotional performance (EP), nor their interaction explained a significant proportion of variance in performance satisfaction (*ps* > .05; see Table 2). This result remained the same for a model including covariates ($F(9,79) = 3.53$, $p < .01$), which can be seen in Appendix D.

Other-Regulation. For other-regulation, only emotional performance emerged as a significant predictor of performance satisfaction ($\beta = 0.26$, $p < .05$, see Table 1). Conversely, trait emotional intelligence ($\beta = -0.001$, $p > .05$) and the interaction term ($\beta = -0.08$, $p > .05$) showed no significant main effect. This held true when adding covariates to the model (Appendix D).

Differences Between Appraisal and Regulation

Additionally, to the regression analysis, a *Fisher's z-test* was conducted to test for significant differences between appraisal and regulation dimensions in their correlation with performance satisfaction. For the self-appraisal dimension, the differences in correlation between appraisal and regulation was significant ($z = -1.97$, $p < .05$) with an absolute difference of 0.29. The difference was not significant for the other dimension ($z = -1.72$, $p > .05$), with an absolute difference of 0.21.

Discussion

Despite the theoretical consensus on the importance of emotional intelligence for performance in sport competitions, past research has found mixed evidence on the strength and direction of the relationship between the two constructs. This study aimed to take a closer look at the relationship between emotional intelligence and athletic performance, specifically focusing on the role of the actual implementation of emotional skills during the specific performance episode, i.e. emotional performance. We hypothesized that emotional performance moderates the relationship between dispositional trait emotional intelligence and performance satisfaction, meaning that how beneficial emotional intelligence is for athletic performance depends on the extent to which an athlete is using emotional skills during the performance episode. We further hypothesized that especially the regulation dimension of emotional intelligence would be predictive of performance satisfaction, as by definition it more closely represents a goal-driven and active effort to use emotions in an effective way.

Emotional Performance as a Moderator

The current study found only limited support for a moderating role of emotional performance in the sport competition context. Emotional performance did not significantly influence this relationship across most dimensions of emotional intelligence, but when taking into account demographic and contextual factors, an interesting finding emerged regarding the

self-regulation dimension. Athletes with a stronger dispositional ability to regulate their own emotions reported higher satisfaction with their performance—but only during performance episodes in which they actively applied these regulatory abilities. This is in line with the theoretical framework of this study, that suggests emotional intelligence is beneficial for performance outcomes but only when the emotional skills are activated during a performance episode and the athlete is able to translate their potential into action.

Interestingly, the study also revealed that having a high capacity for self-regulation could backfire when athletes failed to put it into practice. Highly emotionally intelligent athletes reported lower performance satisfactions for situations where emotional performance was low. This finding is surprising as emotional intelligence is generally thought to be a beneficial trait that enhances performance and well-being (Koop et al., 2021; Laborde et al., 2011). That high emotional intelligence is related to lower performance satisfaction if the individual is not able to use it during a performance episode could be explained in a number of ways. Individuals who perceive themselves as skilled at regulating their own emotions may have higher expectations for their emotional performance compared to those with lower self-regulatory abilities (Bandura, 1982; Udayar et al., 2020). When they are unable to utilize these skills, the discrepancy between ability and outcome may lead to feelings of frustration and dissatisfaction. (Vancouver et al., 2001) Or if they are unable to effectively regulate their emotions, they might be more likely to resort to suppression as a way to deal with their emotions, which has been shown to negatively impact performance (Wagstaff, 2014; Varas-Julca et al., 2024).

For all other domains, emotional performance did not significantly influence the relationship between trait emotional intelligence and performance satisfaction. The weak and inconsistent relationship with trait emotional intelligence, suggests that emotional performance is a distinct concept, shaped by factors outside general dispositional ability.

Furthermore, trait emotional intelligence was found to have no direct relation with performance satisfaction overall for all four aspects of emotional intelligence. The lack of direct effect suggests that merely possessing an ability is not enough for satisfaction to benefit from it. The finding that trait emotional intelligence by itself does not influence performance outcomes alone is surprising as it contrasts with the majority of evidence suggesting at least some level of association between emotional intelligence and performance outcomes (Koop & Jekauc, 2018, Laborde et al., 2011). While this study is not the first to report non-significant results in the context of emotional intelligence and sports performance (Soflu et al. 2011; Dimick, 2017), the lack of significant direct effects challenges prior assumptions in the literature that emphasize the universal importance of emotional intelligence in sports. Rather than trait emotional intelligence, it seems to be the manifestation of these skills—emotional performance—that impacts performance outcomes. Drawing on Trait Activation Theory (Tett & Burnett, 2003), emotional intelligence may only lead to performance benefits when situational factors align to activate these traits, which is reflected in emotional performance.

The importance of applying your emotional intelligence rather than merely possessing it is further supported by the result that while trait emotional intelligence did not predict performance satisfaction for any of the four dimensions by itself, emotional performance was independently related to reported performance satisfaction for the regulation dimensions. This shows that although emotional performance only moderated the relationship for the self-regulation dimension, it still seems to be connected to performance satisfaction independently from trait emotional intelligence.

The Importance of Regulation of Emotions in Emotional Performance

For the emotional performance aspect, this study found preliminary support for the second hypothesis stating that the ability to regulate emotions is especially important for understanding and predicting performance satisfaction compared to the appraisal dimensions.

Both the regulation of one's own emotions and the regulation of others' emotions were significantly correlated with higher levels of performance satisfaction (see Table 1), whereas appraisal was not significantly related with the performance outcome. There was a moderate difference between the correlation of appraisal and regulation with performance satisfaction, which was significant for the self-focused dimension. This suggests that self-regulation plays a uniquely important role in influencing performance satisfaction, surpassing the contribution of merely appraising one's own emotions. The lack of significance for the other-focused dimension might be attributed to limited statistical power, as only 27 performance situations involved the regulation of others' emotions, compared to 73 episodes focused on self-regulation. This imbalance could have reduced the ability to detect meaningful effects in the other-focused dimension, even if they exist. Moreover, while appraisal did not explain any amount of variance in performance satisfaction (see Table 2), both regulation dimensions explained a moderate amount of unique variance in the dependent variable.

This is in line with the theoretical framework that proposes that the actual implementation of a skill is more important for performance outcomes than the general ability to do so. By definition, emotional regulation involves actively influencing emotions to pursue specific goals. Therefore, both self-focused and other-focused regulation represent deliberate efforts to manage emotions in a goal-directed way. Furthermore, this study is not the first study to highlight the importance of regulation over appraisal for driving positive performance outcome connections (Josep & Newman, 2010; Simonet et al., 2021), with regulation continuously been linked to higher performance outcomes in the sport context (Araya et al., 2001; Sukys et al., 2019; Castro-Sánchez et al., 2018).

An exploratory analysis shed more light on the role that emotional appraisal might play for performance outcomes, despite not being directly connected to performance satisfaction. A mediation analysis (see Appendix E) suggested that for the other-focused dimension,

appraisal indirectly contributes to performance satisfaction by facilitating regulation. This is in line with what Pekaar et al. (2020) proposed in their framework of emotional intelligence, suggesting a stepwise process in which an emotion first needs to be appraised to be regulated. Moreover, previous studies have found different appraisal patterns to predict methods of regulatory action (Schmidt et al., 2010; Yih et al., 2019), supporting an integrative approach of emotional appraisal and regulation.

However, the same indirect effect of appraisal on regulation efforts was not observed for the self-focused domain, indicating that self-regulation is less dependent on appraising internal emotional cues. This might reflect the possibility for appraisal processes for one's own emotions to happen automatically and subconsciously (Moors, 2010; Lazarus, 1991), therefore requiring less active effort to do so. So while the appraisal of emotions does have some relevance for performance satisfaction in situation that involve the management of other's emotions, the findings also highlight the limited utility of simply recognizing or understanding emotions without actively managing them. Furthermore, despite representing similar processes, for the regulation dimension there seem to be differences in the way self- versus other-focused emotional performance relates to performance satisfaction.

Differences in Self- and Other-Regulation

While the active effort to regulate others' emotions consistently emerged as a weak but direct predictor for performance satisfaction, contributing to satisfaction regardless of other factors, self-regulation showed a more complex pattern. The shift from a main effect of emotional performance to a significant interaction when demographic and situational factors were considered highlights the context-dependent nature of self-regulation. This aligns closely with Trait Activation Theory, framing self-regulation not as a static trait but as a dynamic process requiring the right environmental and individual conditions to be applied. Factors influencing emotional performance might be contextual variables such as motivational

climate and task complexity, and can be both facilitative and inhibitory for skill expression. (Lazarus, 2000; Castro-Sánchez et al., 2018b). Previous research supports this by suggesting that the relationship between emotional intelligence and performance outcomes can be highly context-dependent, with stronger associations observed in environments where emotional demands are particularly salient or where individuals are encouraged to actively apply their emotional skills (Laborde et al., 2011; Kopp & Jekauc, 2018).

The consistent main effect of other-regulation may be attributed to its inherently interpersonal nature, representing a generalized skill that is regularly activated in social contexts. While the need for self-regulation, which involves managing one's own emotions in response to internal or external demands, might vary immensely across specific performance situations, other-regulation primarily relies on observable emotional cues and behaviors from others (Pekaar et al., 2020; Kopp & Jekauc, 2018). Its relevance appears to be consistent across performance situations involving social interactions, where the presence of teammates or opponents provides clear triggers for its activation. Additionally, the dynamics of team culture may foster the application of other-regulation (Laborde et al., 2016), potentially supporting its implementation regardless of an individual athlete's overall level of emotional intelligence. The relevance of interpersonal cues for other-regulation is further highlighted by its strong correlation with other-focused appraisal (see Table 1), which suggests that a high effort to appraise the emotions of others is related to stronger effort to regulate them. This highlights the importance of the ability to recognize emotional cues shown by others for initiating efforts to regulate them and, in turn, their importance for higher performance satisfaction.

Both the theoretical background and the data of the current study emphasize the importance of context for emotional performance. Future research should pay special attention to trying to capture potential contextual variables that moderate the relationship

between emotional intelligence and emotional performance by exploring performance situations or applying a long-term design.

Practical Implications

As emotional performance represents a trainable skill, it provides greater opportunity for the development of interventions and the testing of their potential effect. This study provides preliminary evidence for areas that might be worthwhile to explore for interventions in the sport context.

Other-regulation emerged as a relevant factor, benefiting athletes across all levels of emotional intelligence to a small degree, making it an inclusive and impactful training focus. This study is not the first to highlight the importance of other-regulation in the sport context (Mon-López et al., 2023; Friesen et al., 2011), emphasizing the usefulness for interventions. Moreover, even though appraisal had no direct relationship with performance satisfaction, it might still be useful to look at the training possibilities for appraisal skills for sports high in interpersonal interactions. Other research has suggested as well that emotional intelligence skills may follow a cascading pattern, with appraisal preceding regulation efforts (Pekaar et al., 2020; Joseph & Newman, 2014). Helping athletes more easily recognize and understand the emotions of their peers could improve regulation efforts and in turn has the potential to increase satisfaction with performance.

That self-regulation plays a role in predicting performance outcomes is not surprising, as there is already a large body of evidence supporting interventions that help athletes to regain their focus during emotionally challenging situations (Robazza & Ruiz, 2018; Murdoch et al., 2024). However, the result of the negative relationship for trait emotional intelligence and performance satisfaction should be taken into account by sports psychologists when dealing with athletes who score high on emotional intelligence. While further research is needed to understand this dynamic fully, the potential inhibitory influence when an individual

is not able to use their emotional intelligence should be explored by practitioners and researchers alike.

Strengths and Limitations

The novelty of this study lies in its focus on what happens during a specific performance situation instead of simply focusing on the overall trend an athlete might show in his emotional abilities. Emotional performance and trait emotional intelligence appear to represent two distinct, although related, concepts. The majority of research has focused on the general ability of emotional intelligence that represents an enduring quality with only minor fluctuations across time. This conceptualization has limited utility for applied psychological research, as dispositional traits give less opportunity to train and improve them. The neglect of the actual manifestation of emotional intelligence leaves a hole in the body of research aiming to optimize performance. Our study has shown the value in investigating how emotional performance, that is, the active application of emotional intelligence, might relate to performance outcomes in the athletic context, which has seldom been the focus in emotional intelligence research. Furthermore, utilizing two scales that are based on the same framework makes a coherent interpretation of the relation between the constructs possible.

However, this study was not without its limitations. The most relevant limitation to this study was the lack of robust measurement of the contextual covariates. The open choice format and lack of standardized coding guidelines introduced a number of opportunities for possible bias. As athletes were able to select and describe their performance situation freely, it led to a great heterogeneity in performance situations, with the size of categories being too small to detect any reliable effect. The free and retrospective selection introduces the possibility for selection bias and often results in a vague and incomplete description of the performance situations. This impeded the development of coding criteria, which, together with the lack of predefined guidelines for the categorization and coding, decreased the

reliability of the items and increased the risk for interpretation and post-hoc bias. The researcher-centric coding also leads to subjectivity and obscures the interpretation of the participant of the performance episode. This impacts the confidence in the results regarding the robustness of other-regulation against the influence of present covariables, as it becomes unclear whether the consistent effect might be due to the measurement not being sensitive enough to capture the true effect. This is also especially relevant for the found interaction effect of the self-regulation dimension, where emotional performance showed an unreliable relationship after covariates were introduced. More research is needed to test the robustness of results against these limitations in questionnaire design.

Moreover, the generalizability of our findings may be limited due to the use of a convenience sample, leading to an unbalanced design consisting mostly of university team sport athletes competing at a regional level. This is a potential factor contributing to the small effect sizes found in this study. Future studies should aim for a more balanced design to explore whether these findings apply equally across levels and types of sports.

As a new construct, emotional performance is currently measured solely by the Emotional Performance Questionnaire (Buurma et al., 2025), which has demonstrated promising validity and reliability in pilot studies, as well as good to excellent internal consistency in our study. However, using an unpublished and not yet peer-reviewed instrument may limit confidence in the validity of findings.

As with most cross-sectional data, this study does not allow us to draw any conclusions about the causality between emotional performance and performance outcomes such as performance satisfaction. With regard to the utility of emotional performance for the training context, intervention studies should explore whether an increase in emotional performance has the potential to directly lead to higher performance.

Conclusion

This study examined the role of emotional performance in moderating the relationship between trait emotional intelligence and performance satisfaction in athletes. The findings suggest an importance of applying emotional intelligence situationally, with emotional regulation performance being the main factor of the connection between emotional performance and performance satisfaction. While trait emotional intelligence did not directly predict performance satisfaction, its effects were moderated by active skill use for self-regulation, supporting the context-dependent nature of emotional intelligence. This research is a first step towards a more applied approach to emotional intelligence in sport-psychology and a serves as suggestive evidence for future studies to explore emotional intelligence and performance across diverse contexts and population

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Appendix A

Text for Social Media:

ATTENTION ATHLETES

Your experiences matter! We, at the University of Groningen are conducting a survey to understand **how athletes like you handle their emotions during competitions** and need your insights. By participating, you'll contribute to cutting-edge research that can benefits athletes worldwide. **Your input is invaluable.** Join us in uncovering the secrets to peak performance.

Take the survey now!

https://rug.eu.qualtrics.com/jfe/form/SV_9zabkOPb2cRfvmu

Appendix B

Informed Consent

Thank you for your interest in participating in this study.

Please take time to read the following information carefully.

You are invited to participate in this study because you are an active athlete in a competitive sport context.

This short questionnaire should take around 10 minutes to complete. You will be asked some questions regarding how you handle your own and others' emotions, generally as well as in a specific performance episode during a competitive match.

Your participation in this study is voluntary. Formally we have to indicate that there are **no risks** to participating in this study. To take part in this study, you will first be asked to sign this consent form. After you sign the consent form**, you are still free to withdraw at any time and without giving a reason**.

If you withdraw from the study before data collection is completed, your data will be destroyed.

Your responses to this questionnaire will be de-identified and treated anonymous.

If you are interested in receiving any information about the findings of the study as well as some tips on how to manage your emotions in your sport, you have the opportunity to indicate that at the end of the questionnaire.

Principle investigators of this research are Nico van Yperen and Sebastian Buurma from the University of Groningen.

In case of any further questions, feel free to contact the co-investigator Meret Ridderbusch (University of Groningen) via m.ridderbusch@student.rug.nl

For any complaints or questions regarding the data storage, you can contact Mr. A.R. (Arjen) Deenen (University of Groningen) via a.r.deenen@rug.nl, or the Central Privacy Desk via privacy@rug.nl.

- o I have read the information above and understand what the research is about, what is being asked of me, that there are no risks to participating, that my data will be handled anonymously, and that I am free to withdraw at any moment.
- o I voluntarily participate in this study.
- o I consent voluntarily to my data being used for this study on emotions in sport. My privacy is guaranteed at all times.
- o I consent voluntarily that my raw data can be further used by other researchers under the condition that my privacy is guaranteed at all times.
- o I understand my deidentified data will be retained on the University of Groningen server for 5 years, in correspondence with the university General Data Protection Regulation.

Questionnaire

What is your age? _____ years

What is your gender?
O Male
O Female
O Other:

What is your nationality?
Dutch O German O Other:

What sports do you practice as your **primary** sport?
If you do a sport like Tennis, where it is possible to play it as both an individual and a team sport (e.g. double), pick the option you play the most or in which you enter competitions the most often.

O A Team sports, namely:
O An Individual sport, namely:

Do you play this sport in a competitive context (i.e. participating in tournaments and competitive matches)?
Yes / No

How many years have you been active as a competitive player in your sport?
___ years

In this part you will be asked to rate a few statements regarding **how you handle your emotions generally**. Please indicate **how much you agree with any given statement.**

1. Strongly disagree
2. Disagree
3. Somewhat disagree
4. Neither agree nor disagree
5. Somewhat agree
6. Agree
7. Strongly agree

Self-focused Appraisal

- I always know how I feel.
- I can distinguish my own emotions well.
- I am aware of my own emotions.
- I understand why I feel the way I feel.
- I know which emotions I experience.
- Mostly, I am able to explain exactly how I feel.
- I can judge well if events touch me emotionally.

Other-focused Appraisal

- I am aware of the emotions of the people around me.
- I know which feelings others experience.
- When I look at other people, I can see how they feel.
- I can empathize with the people around me.
- I understand why other people feel the way they feel.
- I can distinguish well between other people's emotions.
- I can judge well if events touch others emotionally.

Self-focused Regulation

- I am in control of my own emotions.
- I can suppress my emotions easily.
- I do not let my emotions take over.
- I only show my emotions when it is appropriate.
- Even when I am angry, I can stay calm.
- If I want to, I put on my poker face.
- I adjust my emotions when necessary.

Other-focused Regulation

- I can make someone else feel differently.
- I can alter another person's emotional state.
- I can boost or temper the emotions of others.
- I have great influence on how others feel.
- I know what to do to improve people's mood.

- I know how to influence people.
- I am able to calm others down.

EPQ

The goal of this next part of the questionnaire is to illustrate the extent in which you've used emotions of yourself or others **during a specific performance episode in your sports.**

A performance episode represents a specific situation or part of a sports game. **This can be as specific** as a penalty in soccer, a single lap in ice skating or a rally in volleyball. It can **also be a longer period of time**, such as a specific half of the game, the warm-up phase to a sports game or the game in its entirety.

To answer the questions, you'll first need to think of a recent performance episode during a match in which socially interacting with others / emotional regulation of your own emotions or the emotions of others was part of the episode. This can be before or also during the game.

Examples of such situations might be calming emotions before a match-ball or handling frustrations because of lost chances. **It can be any situation, as long as emotions of yourself and others (**this can also include your coach or a parent**) were present during the performance episode of your choosing.**

Please describe the situation and the emotions within the situation in three sentences:

When did the performance episode you've just written down occur?

1. Today
2. Yesterday
3. This week
4. In the previous week
5. Longer ago, namely ____

1. Totally disagree
2. Mostly disagree
3. Somewhat disagree
4. Neither agree nor disagree
5. Somewhat agree
6. Mostly agree
7. Totally agree

Self-Focused Appraisal

The next questions illustrate the **extent to which you deliberately paid attention to your emotions** (like joy, sadness, anger, disappointment, pleasure etc.) **during the performance episode** you've just written down. Pick the answer that most closely resembles what you've actually done. There's no right or wrong in answering these questions.

During the last performance episode, …

I have deliberately paid attention to how I was feeling.
I have tried to understand how I was feeling.
I have tried to understand why I felt a particular emotion.
I have paid attention to whether an emotion I felt had an impact on me.
I have paid attention to whether my emotions changed.

Other-Focused Appraisal

The next questions illustrate the **extent to which you deliberately paid attention to the emotions of others** (like joy, sadness, anger, disappointment, pleasure etc.) **during the performance episode** you've just written down. Pick the answer that most closely resembles what you've actually done. There's no right or wrong in answering these questions.

During the Performance Episode...
I have tried to understand another person's emotions.
I have paid attention to non-verbal signals from another person.
I have paid attention to how someone else was feeling
I have paid attention to whether emotions of someone else were changing.
I have thought about how someone else was feeling.

Self-Focused Regulation
The next questions illustrate the **extent to which you deliberately used your emotions** (like joy, sadness, anger, disappointment, pleasure etc.) **during the performance episode** you've just written down. Pick the answer that most closely resembles what you've actually done. There's no right or wrong in answering these questions.

During the Performance Episode...
I have purposefully used emotions that are functional to me.
I have used my emotions purposefully.
I have consciously used my emotions to achieve something.
I have used my emotions consciously in pursuit of a goal.
I have used my emotions effectively.

Other-Focused Regulation
The next questions illustrate the **extent to which you deliberately influenced the emotions of others** (like joy, sadness, anger, disappointment, pleasure etc.) **during the performance episode** you've just written down. Pick the answer that most closely resembles what you've actually done. There's no right or wrong in answering these questions.

During the Performance Episode...
I have succeeded in making someone else feel differently.
I have been able to effectively change the emotions of another person.
I have used the influence I can exert on another's emotions.
I have been able to change another person's emotions to their advantage.
I have been able to change another person's emotions to my own advantage.

What was the outcome of the match in which the performance episode occured?
Win / Loss / Draw or Undecided

How **satisfied** were you **with your sport performance** during the game in which your performance episode took place? (rated 1 = extremely dissatisfied to 10 = extremely satisfied).

How **satisfied** were you **with your sport performance** during the performance episode?" (rated 1 = extremely dissatisfied to 10 = extremely satisfied).

Emotional performance self-evaluation:
How **satisfied** are you with **how you used emotions** during the performance episode?" (rated 1 = extremely dissatisfied to 10 = extremely satisfied)

Appendix C

Table C1

Significant differences between means of numerical variables across binary, non-normal categorical variables.

Predictor	M_0	SD_0	M_1	SD_1	DIFF	W	p	r_{rb}
Type of Sport								
TEI_OA	4.88	0.91	5.54	0.82	-0.66	402	.003	-.44
Cue								
TEI_AVG	5.29	0.58	5.06	0.70	0.23	1198.5	.041	.26
TEI_SR	5.21	1.01	4.68	0.98	0.53	1286	.006	.36
EP_OR	3.26	1.47	3.99	1.60	-0.73	717	.047	-.25

Note. The table represents the significant results of a *Mann-Whitney U Test*. The reported effect size r_{rb} is the *rank biserial correlation*. M_0 refers to the average of the reference level (female, individual sport, external cue, negative valence). M_1 refers to the alternative level (male, team sports, internal cue and positive valence).

Table C2

Significant differences between means of numerical variables across binary, normally distributed variables.

Predictor	M_0	SD_0	M_1	SD_1	*DIFF*	*t*	*p*	*Cohen's d*
Gender								
TEI_OA	5.69	0.66	5.05	0.99	0.64	3.54	<.001	0.77
Valence								
Satisfaction	6.21	2.07	7.35	1.69	-1.14	-2.48	<.05	-0.58

Note. The table represents the significant results of independent sample *t*-tests, assuming equal variance. M_0 refers to the average of the reference level (female, individual sport, external cue, negative valence). M_1 refers to the alternative level (male, team sports, internal cue and positive valence).

Table C3

Significant Differences between Groups for Performance Satisfaction and Emotional Performance Scores.

Variable	*df*	*F/Chi²*	*p*	Significant Pairs	DIFF	η^2 / η_R^2
Level						
Satisfaction	4	11.72	.020	National Low Tier – International* Regional – International*	-1.65 -2.37	0.09
Nationality						
EP_AVG	2, 86	4.60	.013	Other - Dutch*	0.97	0.10
EP_OA	2, 86	5.39	.006	Other - Dutch**	1.61	0.11
Focus						
EP_OA	2	13.19	.001	Both - Other **, Self - Other***	-1.57, -1.87	0.13
EP_OR	2	12.88	.002	Self - Other**	-1.69	0.13
Outcome						
EP_AVG	2, 86	5.56	.005	Win – Loss **	0.73	0.11
EP_SR	2	10.77	.005	Win – Loss **	1.17	0.10
EP_OR	2, 86	5.31	.007	Win – Loss **	1.08	0.11
Satisfaction	2	12.80	.002	Win – Loss **	-3.54	0.13

Note. For variables where the normality and homoscedasticity assumptions were violated, a *Kruskal-Wallis Test* with a post-hoc *Dunn Test* was performed. For effect size the rank η^2 was calculated instead the regular η^2. Otherwise, One-way *ANOVA* with *Tukey's Range Test* post-hoc comparison was applied.

Appendix D

Table D1

Regression results of the moderation analyses of the self-focused dimensions (n = 89).

Predictor	β	β 95% CI		*SE (β)*	sr^2	sr^2 95% CI		*Fit*
		LL	*UL*			*LL*	*UL*	
Self-Appraisal								
(Intercept)	-1.88**	-2.99	-0.76	0.56				
Age	0.04*	0.01	0.07	0.16	.06	-.02	.15	
Valence	0.65*	0.14	1.15	0.25	.06	-.03	.14	
Focus (Other)	-0.16	-0.88	0.55	0.36	.00	-.01	.02	
Focus (Self)	0.17	-0.38	0.71	0.27	.00	-.02	.02	
Cue	0.39	-0.07	0.85	0.23	.03	-.03	.08	
Outcome	0.65**	0.24	1.07	0.21	.09	-.01	.19	
REIS_SA	0.07	-0.15	0.30	0.11	.00	-.02	.03	
EPQ_SA	-0.08	-0.29	0.13	0.11	.01	-.02	.03	
Interaction	0.07	-0.11	0.24	0.09	.01	-.02	.03	
								R^2 = .28**
Self-Regulation								
(Intercept)	-1.98***	-3.07	-0.90	0.55				
Age	0.05**	0.02	0.08	0.02	.08	-.02	.17	
Valence	0.65**	0.17	1.14	0.24	.06	-.02	.14	
Focus (Other)	-0.15	-0.85	0.54	0.35	.00	-.01	.02	
Focus (Self)	0.15	-0.37	0.67	0.26	.00	-.02	.02	
Cue	0.38	-0.07	0.83	0.23	.02	-.03	.08	
Outcome	0.60**	0.18	1.01	0.21	.07	-.02	.16	
REIS_SR	0.05	-0.16	0.26	0.11	.00	-.01	.02	
EPQ_SR	0.10	-0.12	0.32	0.11	.01	-.02	.04	
Interaction	0.19*	0.00	0.38	0.10	.04	-.03	.10	

Note. Interaction representing (TEI*EP) terms. Beta represents the partially standardized regression coeffient.
* indicates $p < .05$. ** indicates $p < .01$ *** indicates $p < .001$.

Table D2

Regression results of the moderation analyses of the other-focused dimensions (n = 89).

Predictor	*β*	*β* 95% CI		*SE (β)*	sr^2	sr^2 95% CI		*Fit*
		LL	*UL*			*LL*	*UL*	
Other-Appraisal								
(Intercept)	-1.72***	-2.83	-0.61	0.55				
Age	0.04*	0.01	0.07	0.16	.05	-.03	.12	
Valence	0.69**	0.18	1.20	0.26	.07	-.02	.15	
Focus (Other)	-0.20	-0.94	0.53	0.37	.00	-.02	.02	
Focus (Self)	0.15	-0.38	0.68	0.27	.00	-.02	.02	
Cue	0.45	-0.01	0.91	0.23	.03	-.03	.10	
Outcome	0.62**	0.22	1.03	0.20	.08	-.01	.18	
TEI_OA	-0.11	-0.32	0.10	0.11	.01	-.02	.04	
EP_OA	0.10	-0.12	0.32	0.11	.01	-.02	.04	
Interaction	-0.08	-0.25	0.08	0.08	.01	-.02	.04	
								R^2 = 0.29**
Other-Regulation								
(Intercept)	-2.10**	-3.24	-0.96	0.57				
Age	0.05**	0.02	0.08	0.02	.08	-.02	.17	
Valence	0.71**	0.22	1.20	0.25	.07	-.02	.16	
Focus (Other)	-0.26	-0.96	0.45	0.35	.00	-.02	.03	
Focus (Self)	0.31	-0.26	0.88	0.29	.01	-.02	.05	
Cue	0.58*	0.12	1.04	0.23	.05	-.02	.13	
Outcome	0.48*	0.06	0.90	0.21	.05	-.03	.12	
TEI_OR	0.04	-0.17	0.24	0.10	.00	-.01	.01	
EP_OR	0.26*	-0.03	0.48	0.11	.05	-.03	.12	
Interaction	0.03	-0.15	0.20	0.09	.00	-.01	.01	
								R^2 = 0.32**

Note. Interaction representing (TEI*EP) terms.
* indicates $p < .05$. ** indicates $p < .01$ *** indicates $p < .001$.

Appendix E

Table E1

Exploratory Mediation Analysis for an Indirect Effect of Appraisal through Regulation for Emotional Performance (n = 89).

Predictor	*Effect*	*Effect* 95% CI		*SE*	*t*	*p*	R^2
		LL	*UL*				
Self-Focused							
Mediator (EP_SA → EP_SR)	0.05	-0.17	0.26	0.11	0.44	0.66	*0.02*
Direct Effect (EP_SA → PS)	-0.04	-0.24	0.17	0.10	-0.34	0.73	
Indirect Effect (EP_SA → EP_SR → PS)	0.01	-0.07	0.09	0.04			
Total Effect	-0.02	-0.24	0.19	0.11	-0.21	0.83	< .001
Other-Focused							
Mediator (EP_OA → EP_OR)	0.55	0.37	0.72	0.09	6.16	< .001	*0.30*
Direct Effect (EP_OA → PS)	-0.14	-0.39	0.10	0.12	-1.15	0.25	
Indirect Effect (EP_OA → EP_OR → PS)	0.18	0.04	0.34	0.07			
Total Effect	0.04	-0.18	0.25	0.11	0.34	0.73	0.00

Note. Analysis was done using Hayes et al. (2022) PROCESS macro using a simple mediation model. Number of bootstraps = 5000 for the indirect effect.