Chapter

Perspective Chapter: Enacting Emotional Intelligence from the Bidirectional Link between Mood and Reasoning

Kévin Bague, Jean Baratgin and Éric Laurent

Abstract

During the last 20 years, the concept of emotional intelligence (EI) has gained significant attention in psychology. Traditionally, EI has been conceptualized as the ability to reason with and/or about one's own emotions and/or in the presence of emotion-related stimuli. This chapter presents an enactive framework for conceptualizing EI as a context-sensitive, dynamic, emerging and purposeful ability. We describe a bidirectional relationship between mood and reasoning processes, building on the dual-process model of reasoning. First, we report evidence showing how mood can impair reasoning capacity. Mood also interacts with task content relevance, which can suppress detrimental effects of induced mood on reasoning. The dynamic influence of mood on reasoning can be explained by the cognitive load induced by positive and negative moods that saturates System 2 involved in EI-related reasoning. Furthermore, negative mood could promote EI-related reasoning based on System 2, while positive mood could promote EI-related reasoning based on System 1. In this framework, mood regulation plays a central role in EI. Then, we discuss how the reasoning abilities of each EI subcomponent can influence mood. Overall, those proposals can be conceived within a cycle including both mood and reasoning, in the context of need regulation. The coordination between those various factors contributes to enacting EI.

Keywords: cognition, dual process, emotional intelligence, enactivism, mood, mood disorders, reasoning

1. Introduction

For a long time, affective processes were excluded from cognitive sciences [1, 2]. However, in recent years, the relationships between cognition and affects have increasingly received attention (e.g., [3]). This is especially true in the new paradigm of reasoning (e.g., [4–6]). In this framework, reasoning is no longer reduced to a neutral and objective process. Rather, it is dependent on the people's motivation, preferences, environment and subjective goals. Thus, in the study of reasoning, it seems essential to

take into account the additional implicit or subjective undertones that may result from linguistic pragmatic effects, social norms and other contextual influences specific to the individual [4–6]. The latter are highly dependent on affective processes (e.g., [7, 8]). In this context, emotional intelligence (EI) is a very good study case, because EI is commonly defined as the capacity to reason with emotions and about emotion-related stimuli [9]. The prevailing model conceptualizes EI as a set of abilities that allow individuals to perceive, use, understand and regulate emotions [9]. Below, we use the formulation "EI reasoning" or "EI-related reasoning" to refer to this set of skills. Although this is a major conceptualization of EI (e.g., [1, 9]), it is limited to studying EI within a steady [10] and disembodied framework. That is, classical models of EI do not take into account the influence of situational factors [10, 11]. They do not allow for the possibility that an individual may exhibit EI capacities in a specific context but not in another [11]. In other words, they do not help to grasp the complexity associated with *why* and *how* EI emerges [11]. We will provide support for a more balanced and complex view in which a set of cognitive and emotional processes dynamically coordinate with each other. EI would be embodied and embedded in a multiscale context and enacted from that context. Because of the complex features associated with this emerging pattern, the EI abilities would be rather dynamic, non-linear and context-dependent. In this chapter, we define context "as any other elementary (or groups of) living or non-living material or symbolic objects, which, through their connectedness with the first biological unit, may influence its activity" ([12], p. 2).

Ybarra and colleagues were among the first to propose a dynamic and context-sensitive account of EI [11]. According to this view, an individual with high capacities in EI can sometimes have poor performances (i.e., impaired EI such as ineffective or maladaptive behaviors, low score on EI assessment), because the actual manifestation of a capacity is context-dependent. They proposed that EI is embodied and influenced by needs, especially at social (e.g., social needs, social climate) and cognitive (e.g., automatic *vs.* controlled processing) levels. Pekaar and colleagues developed a more complex model of EI, in which EI is enacted during an emotional episode through an embodiment of multilevel factors such as emotion type, personality, cognitive capacities, social factors and environmental demands [10]. In this chapter, we propose to pursue the dynamic conceptualization of EI by emphasizing the significance of mood. Mood is relevant in this domain, because individuals with high EI capacities may demonstrate different performances depending on their mood. While EI is defined as the capacity to reason with emotions and emotion-related stimuli [9], this reasoning activity occurs within a particular mood state. More traditional conceptualizations of EI could lead to the representation that reasoning activity occurs in an affective vacuum, despite EI being itself a concept related to affective processes. We propose that EI is embodied and therefore influenced by mood state.

Mood and emotions are tightly related. They are currently considered as two distinct entities, though a lot of confusion between the two concepts can be found in the literature. We differentiate mood from emotion, particularly at the temporal level. Pekaar and colleagues explained that emotions occur over a discrete episode [10]. It has both clearly distinguishable start and end. Prior to an emotional event, individuals already experience a mood state that can influence their emotional reaction to stimuli. The emotional event can modify the dynamics of the mood state, the latter being due in part to a residual effect of the emotion. For example, if you wake up in a bad mood, you might react strongly if one of your colleagues makes a remark upon arriving at work. If you have an argument with your spouse in the morning, it is possible that you will remain in a similar bad mood for a part, or the rest, of the day.

At any moment, humans experience a particular mood state (e.g., [13]), meaning that there could also be a variable influence of mood state on EI.

In the remaining lines, we will discuss how mood interacts with reasoning processes to contribute to the emergence of EI. Reasoning is a core component of EI in both "static" (i.e., traditional) and "dynamic" accounts. Ybarra and colleagues have emphasized that factors inherent to reasoning can influence EI [11]. We will first expose evidence for mood influences on reasoning and then discuss how reasoning can in turn influence mood. Finally, we will share a perspective combining those influences in order to contribute to an enactive approach to EI.

2. How could mood and reasoning enact EI

2.1 Mood impairs reasoning capacity: empirical findings

Numerous studies have examined the impact of mood on logical reasoning. Most of these studies showed that both laboratory-induced negative and positive moods impair reasoning performances [7, 14, 15]. For example, using a Wason's selection task[1] to assess logical reasoning, and videos to induce mood, Oaksford and colleagues showed that positive and negative moods reduced reasoning performance (experiment 1) [16]. However, in this experiment, participants reasoned with neutral content (i.e., without emotional content).

Interestingly, Jung and colleagues showed that participants in negative mood performed poorer than participants in positive mood, and participants in positive mood performed poorer than participants in "neutral" mood when they were presented with emotion-related stimuli (i.e., positive or negative material content) on the Wason's selection task and conditional reasoning task[2] [2]. EI has been defined as the ability to reason with emotion-related stimuli [9]. Therefore, people could have impaired EI under positive or negative moods.

2.2 How mood impairs reasoning capacity and involvement for EI

Although EI has been related to reasoning ability, one could argue that this ability differs from logical reasoning. The literature assessing the influence of mood on logical reasoning has proposed interesting explanatory mechanisms. These mechanisms could also account for EI dynamics. Mood is known to influence the way we reason [17, 18]. The influence of mood on reasoning could be explained within the dual-process theory framework. Such a theory proposes that people reason from either: (a) automatic processes (System 1) that are quick, effortless, heuristic and running

[1] In this task, participants observe four cards. One card displays "*p*" information, one displays "*not-p*" information, one "*q*" information and one "*not-q*" information. Participants have to select the two cards that they need to turn over to demonstrate that if a card displays "*p*" on the front, then it displays "*q*" on the back.

[2] In this task, pairs of premices were presented to the participants. A conclusion followed the two premices. The conclusion was based on one of the following inference: Modus Ponens (i.e., if *p* then *q*, *p* is true, then *q* is true), or Modus Tollens (i.e., if *p* then *q*, *q* is false, then *p* is false), or Affirmation of the Consequence (i.e., if *p* then *q*, *q* is true, then *p* is true) or Denial of Antecedent (i.e., if *p* then *q*, *p* is false, then *q* is false). From the two premices, participants have to indicate if the conclusion is logically valid. In this task based on the old reasoning paradigm, only Modus Ponens and Modus Tollens are considered as logically valid inferences.

in parallel, or (b) controlled processes (System 2) that are reflective, slower, analytical, effortful, constrained by working-memory capacities, systematic and running sequentially [14, 15, 19–25].

On the one hand, it has been proposed that both positive and negative moods induce cognitive load that saturates System 2 involved in logical reasoning (e.g., [14]). In several studies, the authors emphasized the general saturation of cognitive resources by mood; resources that could otherwise be allocated to the reasoning task (e.g., [2, 14, 16]). It has also been shown that participants with depressed mood have poorer reasoning performance than healthy participants: (a) because they reason like healthy participants with saturated working memory [26]; (b) only when they have limited working memory capacity and reason in a conflict context (i.e., when the responses are logically invalid but believable or logically valid but unbelievable) [27].

On the other hand, it has been suggested that different mood states promote different style of reasoning [15]. People in positive moods are more prone to recruit System 1-related processes [15]. People in negative moods would preferentially recruit System 2-related processes [15]. Such reports stem from works in social cognition [15] and are consistent with cognitive theories of mood. Mood could be used as information to interpret the current situation [18, 28, 29]. Positive mood could signal a benign and safe situation that does not require effortful and systematic processing [18]. Rather, automatic and heuristic processing would be sufficient, while the reasoning task could require a process-based System 2 [18]. Positive mood promotes dominant and default processing modes [28]. These findings explain why people could engage in reasoning based on System 1 when they are in a positive mood. Conversely, a negative mood could signal a problematic situation that requires a systematic and detailed analysis with effortful processing [15, 18]. Likewise, negative mood promotes non-dominant processing [28]. Negative mood is a signal that there is a problem in a situation. Thus non-dominant processes could take over default to both solve the encountered problem and improve mood. People could hence engage in reasoning based on System 2 when they are in a negative mood. However, negative mood induces a cognitive cost that decreases the cognitive resources allocated to reasoning-based System 2. Thus, the cognitive load associated with mood regulation plays a central role in reasoning processes and can impair performance [2, 14, 16, 18, 26, 27, 30].

Similarly, mood can influence EI-related performances. Several authors emphasized the role of dual-process in reasoning abilities of EI [11, 31]. EI reasoning based on System 1 processes can be ineffective (i.e., fails to accurately achieve the intended goal) if the default thinking style is not attuned to the current context [11]. Mood can be associated with a maladaptive thinking style. For example, this is the case in people suffering from mood disorders. They exhibit negative automatic thoughts that reflect cognitive distortions of reality and maladaptive schemas [32–34]. EI reasoning based on System 2 processes can be problematic if there is a cognitive overload [11]. We have just mentioned that mood induces a cognitive load that decreases the ability to reason from System 2. More generally, EI could depend on dual-process reasoning, which is, itself, influenced by mood.

2.3 The role of task content

In specific conditions, the detrimental effect of mood on reasoning seems to disappear. Mood effect on reasoning seems to interact with material content. It has been proposed that consistency between task content and induced mood could reduce the detrimental effect of mood on reasoning [2, 7, 14]. In Jung and colleagues' research

[2], participants had to solve Wason's selection tasks with neutral, positive or negative content while being under a neutral or positive or negative induced mood [2]. A trial was considered as relevant when the valence of the task content and the valence of the induced mood were the same. They showed that valence relevance did not interact with mood on reasoning performance [2]. The authors observed the same finding when they used a conditional reasoning task easier than the Wason's selection task [2]. From two premises that had a neutral or positive or negative content, participants had to indicate if the conclusion followed necessarily from premises while being in a neutral or positive or negative induced mood [2].

When the content of the task is semantically associated with the content of mood induction, then the detrimental effect of negative mood is suppressed (see [7] experiment 4). In this experiment, the authors used a conditional reasoning task [7]. Participants had to indicate if four inferences, each based either on a Modus Ponens, Modus Tollens, Denying the Antecedent or Affirming the Consequent were valid or not [7]. Each trial was solved after seeing a video with (a) negative and semantically related content, (b) negative and semantically unrelated content and (c) neutral and semantically related content or (d) neutral and semantically unrelated content [7]. However, in this experiment, this semantic association between mood induction and the content of the reasoning task was only studied with the negative and neutral valences. That is the semantic congruence only concerned negative or neutral stimuli. But it would be interesting to extend those results with positive valence.

Such findings suggest that the relevance feature of stimuli plays a role in the mood effect on reasoning. On the one hand, when mood induction and reasoning content are semantically associated, the cognitive load of the former overlaps the cognitive load of the latter [7]. In experiments involving irrelevant conditions, the cognitive cost of mood and the cognitive cost of the task are additive, overloading the working memory and System 2 processes. In other words, when the semantic content of the task is relevant, it does not add cognitive load as it is already activated by mood induction [7], thereby not adding the burden on System 2 [14].

On the other hand, a complementary interpretation is possible: mood regulation could explain such results. Semantic congruency effect could be the expression of a more general goal-relevant effect. This goal is the regulation of mood [35, 36]. The semantic proximity between mood induction (i.e., one of the causes of the current mood state) and reasoning task could give participants the impression that they can regulate their mood by solving tasks. They would be more motivated to solve the task and allocate more resources to it, as they feel that they are addressing the cause of their negative mood. Such a proposition emphasizes the role of mood as information and as a function of the satisfaction level of needs [7] and the teleological synchronization of cognitive functioning (in this case, reasoning) with that level of satisfaction. This interpretation remains speculative and needs to be tested in additional experiments. Additionally, these two interpretations are not mutually exclusive.

Both interpretations could apply to EI. Processes of EI-related reasoning are based on dual-process [11, 31]. Therefore, the semantic relevance effect could occur to optimize reasoning activity. Likewise, mood regulation is a need that could influence more generally the cognitive system (e.g., perception [35]). It could be particularly salient in EI because the regulation of emotion is a core ability of EI. Thus the effect of semantic relevance could also occur in EI to provide individuals with the opportunity to regulate their previously induced mood. In other words, an individual would have more motivation and interest in investing in and succeeding at, a task that will make them feel better.

Moreover, participants are more likely to try to explain negative events that induce negative mood in comparison with positive events that induce positive mood (see [18] for a review). Such findings seem to be very interesting for the *understanding* subcomponent of EI [9]. This subcomponent notably allows determining the antecedents of emotions [9]. Regarding this dimension, there could be a difference in performance according to the valence of the events (i.e., negative *vs.* positive).

2.4 Concrete example and summary

Let us imagine the story of Sam, who works for an advertising agency. This morning, he presented his advertising campaign project for a well-known company to his boss. The presentation does not go well. The boss is not satisfied with Sam's work, becomes angry, and gives him very negative feedback. However, he allows Sam the opportunity to present his work again in a few days. After this interview, Sam's mood is negative. He appears sad and easily irritable. According to the findings presented above, Sam could demonstrate the following EI ability. It could be relevant for him to perceive his boss's emotions in that situation, to understand them, as well as what could satisfy his boss and generate positive emotions. However, once he arrives home, he struggles more to understand what his spouse is feeling and to act accordingly. In the first situation, the deployment of Sam's EI is semantically relevant to one of the causes of his negative mood. The mood induction and the reasoning task to be performed have the same source. This frees up space for him to understand why his boss became angry and how he could adapt his work to transform that emotion into a positive one during the next interview. Moreover, solving this problem would allow him to correct his own mood. If the boss is pleased with the next presentation, then Sam's negative mood should fade, as it was generated by that situation. In the second situation, the deployment of Sam's EI is challenged. Cognitive resources are mobilized to resolve the situation that caused mood disturbance, as an attempt at regulating internal and/or external affective processes. Consequently, there is a saturation of EI-related reasoning processes necessary for Sam's situation with his spouse, especially considering that deploying EI with his spouse would not *directly* regulate the cause of his negative mood.

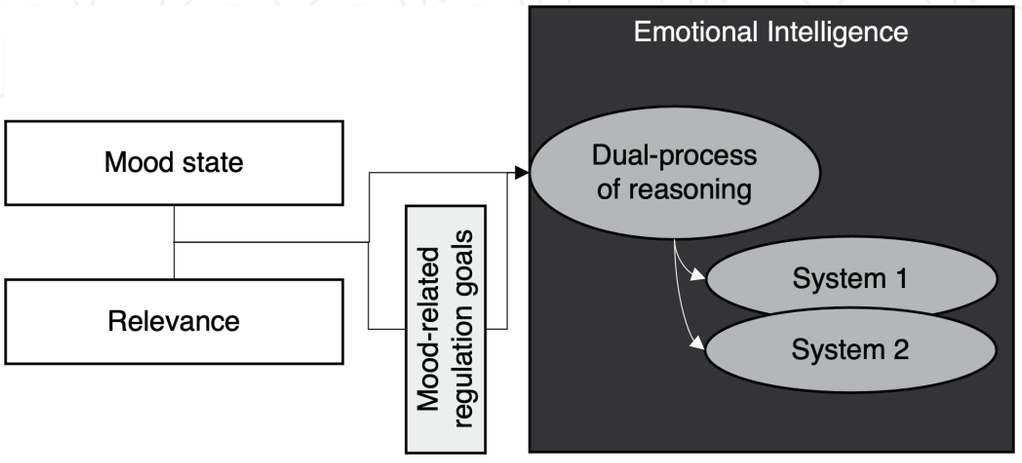

Figure 1.
How could mood and reasoning enact EI. EI capacities depend on the balance in the use of reasoning processes respectively based on system 1 and system 2. Dual-process underlying reasoning abilities are attuned to needs and goals expressed through mood, which interacts with relevance of the tasks.

Taken together, these statements reflect a dynamic and nonlinear conceptualization of EI, which is dependent on mood context. Indeed, EI is the capacity to reason with emotions and emotion-related stimuli [9]. We have shown that this capacity could vary according to mood state and the relevance of emotion-related stimuli (**Figure 1**). These principles could be conceived as foundations for a dynamic approach to the EI abilities that emerge from both mood and reasoning processes. In other words, the dual process underlying reasoning abilities of EI [11, 31] is attuned to needs and goals expressed through mood (**Figure 1**). At this point, we also have to consider the reciprocal effect of reasoning on mood.

3. Reasoning influences mood regulation

In the previous section we have suggested that EI could be enacted from mood through the influence of mood regulation need on reasoning processes. Reasoning processes can also influence mood. Such a reciprocal relationship is relevant in the case of EI because the way of reasoning modifies mood, which, in turn, can influence EI.

3.1 Reasoning and mood in cognitive psychopathology

The influence of reasoning on mood can be discussed from cognitive theories and therapies for mood disorders. Cognitive models of depression state that depressogenic reasoning schemas are cognitive vulnerability factors that could lead to a higher risk of developing depressive disorders (e.g., [37, 38]). The most famous conceptualization is Beck's model mentioned above. In this perspective, depression is associated with the occurrence of automatic thoughts and reasoning biases (e.g., selective abstraction, arbitrary inference, absolutistic thinking, magnification and minimization) [34]. These automatic thoughts are produced by the activation of maladaptive schemas that lead to negativity biases [34]. A second famous conceptualization is the hopelessness theory in which negative anticipations are core processes of depression [39, 40]. According to its proponents, depression is associated with negative inferential style that corresponds to the attribution of negative events to stable, global causes and to infer negative consequences and negative self-characteristics from a given (negative) event [39–41]. In other words, there is a bias in the use of information to draw conclusions about the causes, consequences of the event, and about self-characteristics, and as a consequence, about the future. Such reasoning biases also increase the risk of developing a depressed mood, especially because of a lack of anticipated gratification (e.g., [41]). The theoretical background of cognitive therapy states that events do not have a valence and do not elicit positive or negative emotions *per se*. Rather, it is the cognitive interpretation of the event that elicits positive or negative emotions. That is why recurrently negative inference and "maladaptive" thinking can lead to psychopathology. For example, if Bastien employs a maladaptive reasoning pattern such as "if a dog bit me, then all dogs are dangerous," he will likely generate automatic thoughts like "it will bite me," "it is mean" and consequently, a feeling of fear will arise each time a dog is encountered. However, if Bastien interprets the presence of a dog as comforting or amusing, the resulting emotion will be more positive. One aim of cognitive therapies is to dispute such biased thoughts to increase alternative rationality [34]. Let us revisit the example of Sam. When his boss criticizes his work, Sam may create an automatic chain of thoughts such as "he didn't like what I presented," "my boss is never satisfied with my work," "I'm not a good employee," "I'm worthless". Such a chain could lead

to the conclusion of a failed life, which would likely induce a negative emotion like sadness. In this case, direct or Socratic questioning can be used to try to dispute and rationalize these thoughts [34]. For example, we could ask Sam if there have been instances where his boss has praised his work in order to explore if there are any past experiences that contradict or challenge his negative interpretations. We can associate this with the concept of cognitive reappraisal. This metacognitive strategy consists in modifying the interpretation of an event, by proposing a new meaning. In [42], we have reviewed studies that show that cognitive reappraisal can elicit positive affects, notably in reassessing attributional style (see also [43]). Taken together, cognitive theories and therapies show that (a) reasoning bias can lead to depressed mood, and (b) mood can be modified by the replacement of biased reasoning processes with more "rational" reasoning.

This evidence, rising from cognitive clinical psychology, can be related to dual-process theory. Firstly, the production of automatic thoughts would be supported by System 1. Both refer to thoughts that occur spontaneously and effortlessly and impose themselves on the individual. Functionally, System 1 would allow maintaining the current mood state [23, 30]. That is why it has been proposed that a positive mood is associated with System 1. Secondly, the cognitive reappraisal or direct questioning used to correct automatic thoughts and moods would be supported by System 2 [11]. This system has been associated with the objective of modifying and regulating the current mood state [23, 30]. That is why negative is related to System 2. In other words, cognitive therapy aims to reappraise automatic thoughts elicited by System 1 in using controlled processes of System 2. The dual process theory of depression [23] supports the involvement of System 1 and System 2 in mood regulation. System 2 is supposed to regulate negative mood. However, under certain conditions, it fails to do so, which can lead to the development of a depressed mood. Three specific conditions would prevent System 2 from efficiently regulating mood [23]. Firstly, if System 1 is characterized by a negativity bias, but there is not enough cognitive resource to correct it with System 2 [23]. Secondly, if System 1 is characterized by a negativity bias, but there is no expectation violation [23]. Because of the integration of maladaptive schema, the occurrence of negative automatic thoughts can be expected. Thus, the deployment of System 2 to correct negativity bias could not occur [23]. Thirdly, if System 1 is characterized by a negativity bias and if System 2 is deployed but in a maladaptive manner [23], then rumination should occur [23]. System 2 would then be deployed but could not correct the bias. It would rather contribute to maintaining this bias.

3.2 Emotional intelligence, reasoning and mood

This kind of influence of reasoning on mood could be linked with the *understanding* and *managing* subcomponents of EI [9]. Indeed, *understanding* subcomponent notably allows determining the antecedents of emotions and appraising situations that elicit affect [9]. Automatic thoughts are a way to appraise an event and an antecedent of affects. Mood depends on how the antecedent is determined and how it is appraised. In other words, mood depends on EI. Likewise, *managing* subcomponent can influence mood. First, it has been shown that dysfunctional regulation strategy (e.g., rumination, suppression) can lead to depressed mood [44–46]. Second, this subcomponent notably allows evaluating the strategy of affective state regulation [9]. We have shown that regulation strategy could be based on a dual-process of reasoning. Therefore, the underlying reasoning abilities of EI could influence mood through a dual-process of reasoning.

The *facilitating* subcomponent corresponds to the capacity to use the current affective state to optimize problem-solving. For example, it has been shown that positive mood promotes a global information processing whereas negative mood promotes local information processing ([9]; see also [47] for a review). However, when Huntsinger and colleagues primed a local focus, they reversed the link between mood and global-local processing [48]. That is, participants in positive mood had a greater local focus than participants in negative mood. Thus, the authors proposed that positive mood promotes the processing of more accessible information [48]. This is consistent with the proposition that positive mood promotes the use of System 1 process whereas negative mood promotes the use of System 2 process. Conversely, it has been shown that participants with an induced global processing had higher positive moods than participants with an induced local processing [49]. Therefore, the affective state is used to process information in a specific manner. Reciprocally, how information is processed can induce a specific mood state.

The *perceiving* subcomponent of EI [9] can also influence mood. For example, it has been shown that perceiving happy faces after negative mood induction can lead to mood repair [50]. Likewise, perceiving happy faces increased positive mood and decreased negative mood in both participants with and without depressive symptoms, whereas perceiving sad faces decreased positive mood and increased negative mood in such participants [51].

3.3 Summary

In this section, we reported evidence suggesting that the way we reason contributes to regulating our mood states, and this is partly achieved by EI (**Figure 2**). Indeed, empirical studies from cognitive science and theoretical evidence from psychopathlogy demonstrate that how people perceive, manage, use and understand emotion, influences their mood states. Such influences could be underlain by the goal of mood regulation. EI-related reasoning can lead to mood improvement. This new mood will influence reasoning in a new way. It should be noted that the reasoning process depends on the pre-existing mood. Indeed, the latter can influence the effectiveness of the former. For example, the cognitive load preventing System 2 from correcting the negativity bias of System 1 could be caused by an already deeply entrenched negative and depressed

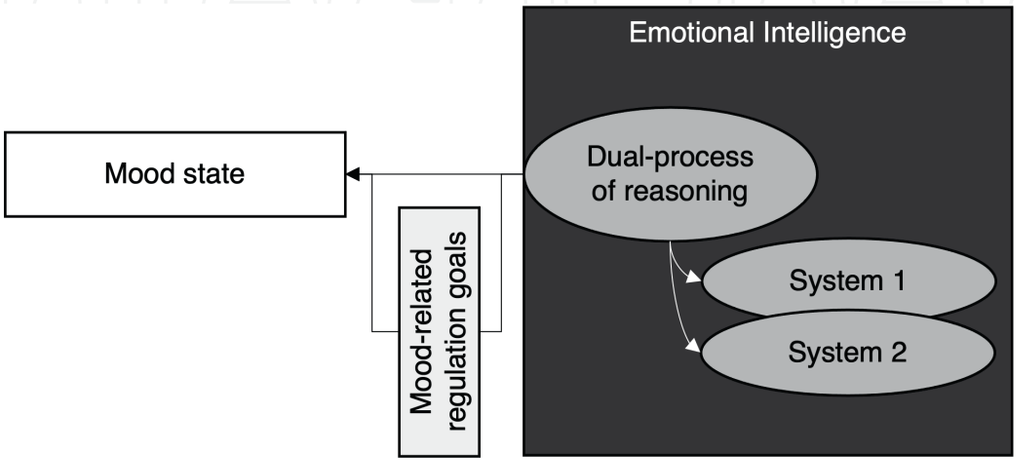

Figure 2.
Influences of EI-related reasoning processes on mood through dual-process of reasoning with the goal to regulate mood.

mood. For example, it has been shown that System 2 is helpful for the perception of facial emotion [11]. However, patients suffering from major depressive disorder exhibit impairment in the recognition of happy facial expressions (e.g., [52]). Just like patients suffering from autism spectrum disorder (see [11]), depressive patients could use System 2 to relearn to flexibly perceive facial expressions, including emotionally positive parts of the stimulation. In a retroactive manner, this could improve their mood, likely reducing the negativity bias and thus further enhancing their ability to perceive positive emotions. Overall, there would be a kind of cycle including both mood and reasoning, in the context of need regulation, which dynamically and in real-time enacts EI.

4. EI enactment from mood-reasoning loop

The key proposal of this chapter is the understanding of EI as a purposeful ability. In relation with mood, EI is characterized by the purpose of need regulation and mood state. Based on those principles, it is necessary to conceptualize EI within a complex and dynamic framework. We propose a model of EI building upon past dynamic models [10, 11], with a specific focus on the mood scale. Prior to an emotional event, individuals already experience a mood state that can influence their emotional reaction to stimuli. The end of the emotional event can modify the dynamics of the mood state, acting as a residual effect of the emotion.

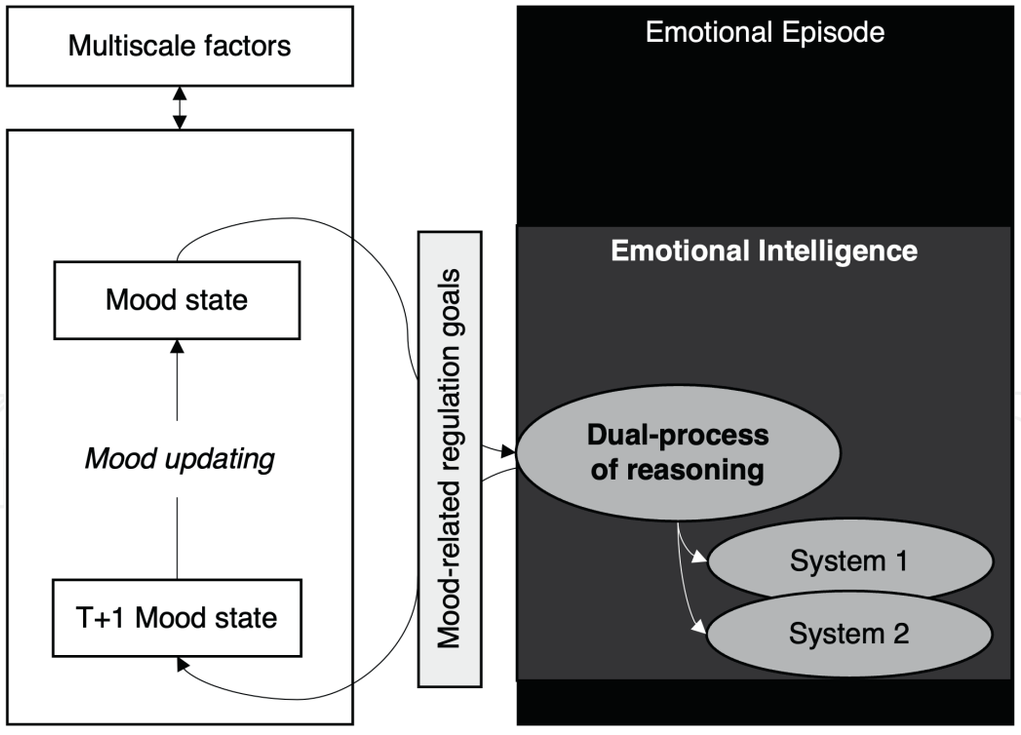

Figure 3.
Hypothetic enactive model of EI. EI emerges from pre-existing mood state during an emotional episode through the mobilization of dual-process of reasoning attuned to needs-related mood regulation. EI reasoning abilities release a residual mood (T + 1) from dual-process of reasoning with the goal of regulating mood. There is an updated mood which will participate in the emergence of the EI during the next emotional episode, creating a cycle. Therefore, we have a dynamic and contextual emergence of EI, embodied in the regulation of needs-related mood. Note. The mood state does not only depend on the processes occurring within an emotional episode. It also depends on other multiscale factors that account for the emergence of mood besides the emotional episode (e.g., need frustration or satisfaction).

Mood → E1			**E1 → Mood**		
Topics	**Example of study**	**Goal and involvement**	**Topics**	**Example of study**	**Goal and involvement**
Interaction between task relevance and induced mood influence on reasoning	Study the interaction between induced positive mood and task relevance	• Past studies focused on induced negative mood	The influence of each EI-related reasoning processes on mood	Perceiving: Assess the extent to which the manipulation of positive/negative faces perception influences negative/positive moods	Test hypothesis that perceiving emotion can update mood state
		• Improve our understanding of processes that underly mood influence on reasoning			
		• Support the dynamic and nonlinear conceptualization of EI			
	Operationalize the relevance with needs-related mood regulation	• Assess the goal-relevant effect hypothesis		Facilitating: Expand research showing that global/local focus can influence mood	Test hypothesis that using emotion to facilitate cognitive process can update mood state
		• Support the dynamic and nonlinear conceptualization of EI			
The influence of mood on EI-related reasoning processes	Assess the causal influence of induced positive/ negative mood on emotion perception, use, recognition and regulation.	• Provide a clear empirical framework of the influence of mood on EI-related reasoning		Understanding: Pursue research showing that event appraising influences mood and determines the involved reasoning process	Test hypothesis that understanding emotion can update mood state Assess the involvement of dual-process of reasoning in this hypothesis
		• Help practitioners in clinical practice to determine the extent to which the current patients' mood state is involved in their success or failure		Managing: Pursue research showing that the manipulation of regulation strategies influences mood	Test hypothesis that managing emotion can update mood state

Table 1.
Future research prospects in the field of EI to assess the hypothetic enactive model of EI presented in the current chapter.

We propose that pre-existing mood prior to the emotional episode enacts the EI during the emotional episode. To do so, mood influences System 1 and System 2 processes that underpin reasoning processes of EI. Such influence has a teleological function to regulate mood. In other words, the dual-process of reasoning is attuned to need-related mood. EI is enacted from this teleological attunement. The reasoning processes during emotional episode, underpinned by System 1 and System 2, could influence mood after the emotional episode. There would be residual mood from this emotional episode, depending on the deployed dual process and its effectiveness. This updated mood influences future reasoning processes during the emotional episode in a new manner, and so on (**Figure 3**).

5. Concluding remarks

To conclude, we recommend conceiving EI as a dynamic ability that emerges from various influences, such as, among others, internal mood and reasoning processes. In this teleological approach to EI, System 1 and System 2 processes are attuned to need-related mood regulation. Retroactively, reasoning processes underpinning EI can influence mood through dual-system process of reasoning. Therefore, EI would be enacted from both mood and reasoning processes. Subsequent mood states, resulting from the latter processes could then modify reasoning processes involved in EI in a new manner. Thus, there are mood-reasoning loops ruled by the teleological function of cognition, from which EI is enacted (**Figure 3**).

This model paves the way for numerous future research prospects in the field of EI (see **Table 1** for a nomenclature and examples of future direction). Future research should experimentally assess the proposed model. Although this model is derived from empirical studies, it remains hypothetical. Further studies are needed to systematically test this model.

At the clinical level, such a view on EI offers promising insights for enhancing the assessment of EI. It emphasizes: (a) the context-sensitive feature of EI; (b) the need to consider mood state as a factor that influences EI performance; (c) the need to distinguish performance from ability. That is, it is not because an individual fails in a given task that they have poor EI abilities. Rather, the failure may be due to contextual factors (e.g., negative mood). They could be capable of succeeding in a different context.

This tentative model presents a theoretical contribution to our understanding of EI. By focusing on the reciprocal and dynamical relationships between mood and the dual-process of reasoning, it expands our view of EI as a purposeful, context-sensitive and dynamic ability. This complex and dynamic theoretical framework provides a deeper understanding of *how* and *why* EI could be enacted.

Conflict of interest

The authors declare no conflict of interest.

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