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# Functional Model for Emotional Information Processing: A Validated Model to Support Social Competence of Students with ADHD

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## Abstract

Many students with ADHD have emotional dysregulation which is increasingly recognized as a core feature of attention-deficit/hyperactivity disorder (ADHD). Functional Model for Emotional Information Processing is supposed to be a useful tool to be used when observing, explaining, and predicting a human being while responding to emotional scenarios. It is a promising model to support social competence of students with ADHD. While research on this model is still in its infancy, it borrowed much of its theoretical base from both Crick and Dodge's SIP model and Mayer and Salovey's ability EI. It is a useful to improve social competence of children with ADHD.

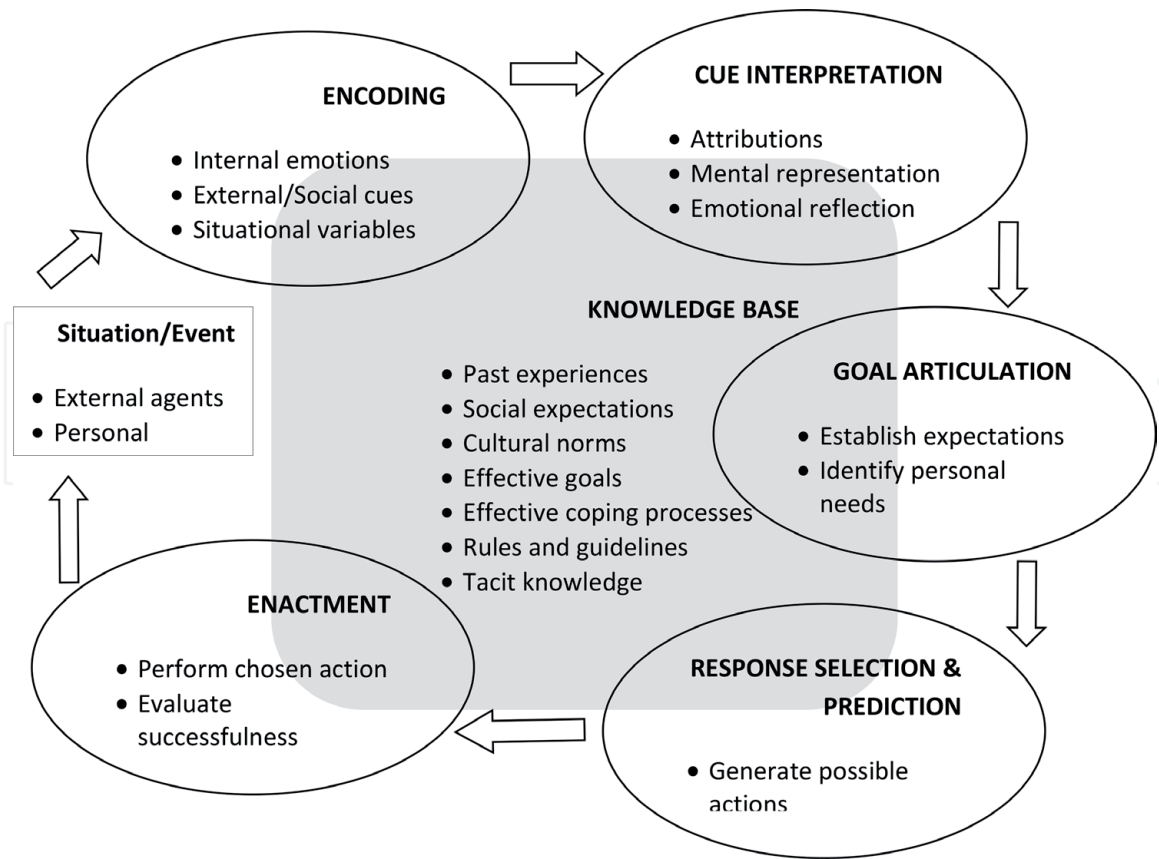
**Keywords:** Functional Model for Emotional Information Processing, Social Competence, Students with ADHD

## 1. Introduction

Functional Model for Emotional Information Processing [1] is supposed to be a useful tool to be used when observing, explaining, and predicting a human being while responding to emotional scenarios. As shown in **Figure 1**, this model involves 5 steps, borrowed from Crick and Dodge's SIP model. They are: Encoding, Cue Interpretation, Goal Articulation, Response Selection and Prediction, and Enactment.

## 2. Step 1: encoding

When an individual (student here) faces an emotional event and its internal and external cues, the first step he/she performs is to attend to it. This is what is called encoding in Functional Model for Emotional Information Processing [2]. With the help of social cues, environmental conditions, and personal beliefs, an individual must be able to attend to, perceive, interpret, and categorize information. This information is of sure related to the setting. When thinking deeply of this first step,



**Figure 1.**  
*Emotional information processing model.*

one guess how it is related to the first branch of Mayer and Salovey’s ability EI model where an individual is supposed to perceive emotions. The individual recognizes and examines emotions that have an internal locus as well as information gathered from others that they interact with [2]. While emotional dysregulation is increasingly recognized as a core feature of attention-deficit/hyperactivity disorder (ADHD) [3], and thus need to be trained in, those with high ability EI are able to master this ability, and thus can easily interpret emotional data. This mastery of encoding personal emotional messages helps us identify our own emotional states as well as others’ emotional states or tendencies. Additionally, it limits biased interpretations of situational factors [2].

### 3. Step 2: cue interpretation

One guesses that this step can be said to be an extension of the previous one; that is, encoding process. When the individual attends to and perceives the information from the social and internal systems, he is supposed now to be able to interpret the meaning that those cues want to convey. This step goes from the same direction of the emotional integration and understanding branches in Mayer and Salovey’s ability model. This step helps interpreting and understanding the cues received in the encoding step, and triggering cognitive actions related to processing the emotional event. Moreover, the emotional information that has been processed can have implications. While students with ADHD may have a deficient knowledge base which may will lead to poor interpretation of social or internal cues, misattribution of intent from others, or inaccurate labeling of emotional states (e.g., confusing anxiety with anger) [4, 5], those with high EI have a strong representation for emotional knowledge or have an elaborate and detailed repository of tacit knowledge that can guide the interpretation of practical situations [2].

#### **4. Step 3: goal articulation**

This step comes after interpreting the social and personal cues in the emotional event by the individual. These goals support the individual in his endeavor to produce specific outcomes. It also helps him/her to refer back to past situations as well as examine social and cultural acceptance for specific goal frameworks. While students with ADHD are emotionally dysregulated, and may set “poor goals” [6], this knowledge base helps other students promote positive behavioral action and self-regulation, and thus can establish “good goals” [2].

#### **5. Step 4: response selection and prediction**

This is an in-depth step where the individual comes to examine his/her interpretation of the situation, thinks deeply of the goal he/she has established for the situation, and accordingly, he/she generates valid solutions that may meet the goal within the situational parameters. While children and adults with ADHD are said to have lower ability in recognizing emotions [7], and thus those children are less successful than their peers in understanding social cues, are not flexible in their responses and are incapable of modifying their behavior according to the demands of environmental changes [8–11], those with high EI will have an involved base of social and cultural knowledge to help determine effective solutions for specific contexts, a repository of potential solutions to choose from, and the ability to weigh the potential outcomes for selected responses [2].

#### **6. Step 5: enactment**

This is considered to be the application step where the individual is supposed to carry out the selected response or coping strategy, the enactment of the solution naturally changes the emotional situation. Then, he/she goes back again to the first step to determine the efficacy of the chosen solution, the change in emotional state caused by the coping strategy, and the current needs facing him/her [2].

##### **6.1 Using functional model for emotional information processing to support social competence of students with ADHD**

ADHD is a neurodevelopmental disorder characterized by impulsivity, hyperactivity, and/or inattention according to the Diagnostic and Statistical Manual of Mental Disorders 5th edition (DSM-5) ([12]; American Psychiatric Association, 2013; [13]). Children with ADHD may have difficulties in controlling their behavior. These difficulties, in return, may lead to their failure in school and may show difficulties in interpreting social cues, in their interpersonal skills, and therefore, in their relationships with others, which are often not as satisfactory as they should be [14]. Children with ADHD are not able to maintain interpersonal relationships with their classmates [15].

Functional Model for Emotional Information Processing was found to be useful to support social competence of students with ADHD. Eissa [2], in a study, which was supposed to be a practical application of this model, investigated the positive effects on the Social Competency in first grade children with ADHD. The effects of training using Cassady and Justin's Functional Model for Emotional Information Processing on social competence of first grade children with ADHD were assessed using Mann–Whitney U test, Wilcoxon signed-rank test, and Z Value.

Findings from this study indicated the effectiveness of the Emotional Information Processing (EIP) model Intervention employed in increasing Social Competency of the target children.

## **7. Conclusion**

Emotional Information Processing (EIP) model may be a useful tool to observe, explain, and predict human agency in response to emotional scenarios. This model can be considered a framework for further research and application. It can be a promising model for improving certain behaviors in children, especially those with ADHD.

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