



The effects of Cassady and Justin's Functional Model for Emotional Information Processing on improving social competence of first grade Children with ADHD

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Abstract

This study explores whether or not Emotional Information Processing (EIP) model Intervention has positive effects on the Social Competency in first grade children with ADHD. 10 first graders primary who had been identified as having ADHD using Attention-Deficit Hyperactivity Disorder Test (ADHDT) (Jeong, 2005) and were experiencing social problems were chosen .These children from two primary schools located in Baltim Edara, Kafr EL Sheik, Egypt .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.

Keywords: Emotional Information Processing (EIP) model , Social Competency, children with ADHD

Introduction

In the past two decades Attention Deficit Hyperactivity Disorder (ADHD) has received a great deal of research and media attention, becoming one of the most publicly recognized disorders. Often defined as a neurodevelopmental condition, ADHD is characterized by inappropriate levels of hyperactive (motor) activity, impulsivity, limited inhibitory control of responses, and an inability to focus, shift and sustain attention . These core features affect development, cause significant disruption in daily life, and extend into several domains of psychosocial functioning (e.g., academic, social/interpersonal) (Holly et al. , 2014).

Many children with ADHD exhibit severe social problems. These social problems often result in their being overtly rejected by their peers. Such rejection is a strong predictor of poor long-term outcomes. Children with hyperactivity appear to manifest a greater amount of aggression and resort to more aggressive solutions to social situations than normal children (Rudolph, 2005)

As stated previously, hostile or reactive aggression has been documented to be less socially acceptable among the peer group and affect peer reputation status. Maladjustment of early school-age peer relationships may potentially increase a child's risk for later maladjustment in a number of different areas (e.g. social skills, relationships, self-esteem), even for those individuals who no longer meet criteria for behavioral disorders in adolescence and adulthood (DeWolfe, Byrne, & Bawden, 2000).

In 1990, Salovey and Mayer released the first publication examining the construct identified as emotional intelligence. The construct was soon integrated into the professional and lay lexicon, leading to the simultaneous development of established and careful psychological research and a flurry of popularized writings explaining how one can “get more of it.” Over the past two decades, a surfeit of work has amassed that explores the impact that EI has on life adjustment and success, the conditions under which one can develop EI, and the nature of EI as a psychological construct(Cassady& Justin , 2008).

Social Competence in children with ADHD

It is widely accepted that children with ADHD have deficits in many areas of social functioning (Barkley et al., 1988). The inappropriate behaviors and poor social skills characteristic of many children with ADHD are commonly met with negative reactions by others in their environment (Campbell, 1990; Guevremont & Dumas, 1994; Hubbard & Newcomb, 1991).

It was estimated that more than 50% of children with ADHD have significant problems in social relationships with other children (Pelham & Bender, 1982). As mentioned above, the interpersonal behavior of children with ADHD is often characterized as more impulsive, intrusive, excessive, disorganized, engaging, aggressive, intense, and emotional. This behavior disrupts the smoothness of the ongoing stream of social interactions, reciprocity and cooperation that may constitute the children's daily life with others (Whalen & Henker, 1992).

The learner with AD/HD often experiences difficulties within this system in that he is unable to behave in a way that fits appropriately with his peers, experiences difficulties establishing new friendships as well as maintaining existing relationships, working collaboratively in groups, and/or dealing with conflict. Because interactions with peers assumes such immense importance during the school years – social pressure is perceived to exceed academic pressure -the learner with AD/HD often feels humiliated, rejected, frustrated, isolated and angry, which negatively effects his view of himself (Levine, 2002)

The learner with AD/HD frequently misinterprets social situations because he experiences difficulties interpreting and communicating the feeling part of language (Levine, 2002). He also finds it difficult to use an appropriate tone of voice, or recognize a tone in others, use a correct choice of words, or follow the rhythm of language (Levine, 2002). In support of this, Sears and Thompson (1998), comment that learners with AD/HD are not always able to understand their behavior from another person's point of view, which indicates that their cognitive development relating to cause and effect is not appropriate for their age. Although most children are able to learn empathy naturally, learners with AD/HD often need to be taught these moral qualities (Sears & Thompson, 1998). The learner with AD/HD may also find it hard to use 'code switching', which refers to being able to converse in a different and appropriate manner with different people and is an essential social language function. For instance, most children verbalize in a different way if they are addressing parents, peers, siblings, the Principal, or the teacher, and are quick to reject or tease the child who is out of step or unable to switch into their language code (Wootton, & Roets, 2013.).

Cassady and Justin's Functional Model for Emotional Information Processing

Cassady and Justin posit it " we believe an Emotional Information Processing (EIP) model may be a useful tool to observe, explain, and predict human agency in response to emotional scenarios. We offer our construction of the EIP model as a framework for further research and application". (Cassady and Justin, 2008, P.28)

As shown in Figure 1, we propose that EIP involves 5 steps that are largely consistent with Crick and Dodge's SIP model: Encoding, Cue Interpretation, Goal Articulation, Response Selection and Prediction, and Enactment.

Step 1: Encoding

The first step (Encoding) involves attending to internal and external cues related to the emotional event facing the individual. During this encoding process, individuals must attend to, perceive, interpret, and categorize information gathered from social cues, environmental conditions, and personal beliefs related to the setting. This step encompasses the first branch of Mayer and Salovey's ability EI model, in which individuals perceive emotions. In this step, the individual recognizes and examines emotions that have an internal locus as well as information gathered from others that they interact with. Those individuals with high ability EI have mastered this ability to interpret the emotional data presented both internally and externally. Strong skills in encoding personal emotional messages are necessary to effectively identify our own emotional states, which can be used to activate appropriate coping strategies later in the processing cycle. Similarly, accuracy in reading external indicators of others' emotional states

or tendencies provides us with the ability to accurately classify the intentions, needs, or desires of those around us, and limit biased interpretations of situational factors (Cassady and Justin,2008).

Step 2: Cue Interpretation

This second step in the model is an extension of the primary encoding process. That is, once the information from the social and internal systems are attended to and perceived, the individual must interpret the meaning of those cues. This step is largely operative in the emotional integration and understanding branches of Mayer and Salovey's ability model. As they explain, this involves triggering cognitive actions related to processing the emotional event, interpreting and understanding the cues received in the encoding step, and considering the implications of the emotional information that has been processed. 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. This repository of knowledge includes social mores, previous personal experiences, cultural norms, and knowledge of personal emotional conditions. Reference back to a deficient knowledge base 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) (Cassady and Justin,2008).

Step 3: Goal Articulation

Once the individual has interpreted the social and personal cues in the emotional event, Goal Articulation takes place – again relying on a bidirectional relationship with the knowledge base. Goals orient the individual toward producing specific outcomes. Reference to the knowledge base in this step allows the individual to refer back to past situations as well as examine social and cultural acceptance for specific goal frameworks. The knowledge base also maintains domain knowledge useful for helping people establish “good goals” – those that are more likely to promote positive behavioral action and self-regulation(Cassady and Justin,2008).

Step 4: Response Selection and Prediction

In this step, the person examines her interpretation of the situation, considers the goal that has been established for the situation, and generates viable solutions that will meet the goal within the situational parameters. Once again, reference to the personal knowledge base is an essential act that largely determines the differential efficacy of coping responses. by individuals with high and low levels of EI. 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(Cassady and Justin,2008).

Step 5: Enactment

The final step in the model involves carrying out the selected response or coping strategy. the enactment of the solution naturally changes the emotional situation (both internal and external representations). In a recursive cycle, individuals then re-enter the EIP model at the Encoding step to determine the efficacy of the chosen solution, the change in emotional state caused by the coping strategy, and the current needs facing the individual(Cassady and Justin,2008).

As Cassady and Justin,(2008) put it "We believe the proposed Emotional Information Processing model serves to frame our understanding of how individuals receive, interpret, and use emotional information. Furthermore, the EIP provides a frame of reference for explaining how specific coping strategies are adopted, and determining why those strategies are selected by individuals".

The purpose of the present study was to examine the extent to which Cassady and Justin's Functional Model for Emotional Information Processing can be used to improve social competence of first grade children with ADHD. The primary research question was, what effects will Cassady and Justin's Functional Model for Emotional Information Processing have on social competence of first grade children with ADHD?.

Method

Participants

10 first graders primary who had been identified as having ADHD using Attention-Deficit Hyperactivity Disorder Test (ADHDT) (Jeong, 2005) and were experiencing social problems were chosen .These children from two primary schools located in Baltim Edara, Kafr EL Sheik, Egypt. The sample was randomly divided into two groups; experimental (n= 5 boys) and control (n=5 boys).They two groups were matched on age ,IQ , and Social Competency. Parental informed consent forms were sent home by the school director and school psychologist to parents of potential participants telling them about the study and requesting them to give permission for their children to participate. Each child also had the following characteristics: (a) meet the full criteria for ADHD using Attention-Deficit Hyperactivity Disorder Test (ADHDT) (Jeong, 2005) (b) deficits in social competency depending his score on Social Competency Rating Form.

Instrumentations

Attention-Deficit Hyperactivity Disorder Test (ADHDT) (Jeong, 2005). To support evidence of criterion validity related to the questionnaire developed based on DSM-IV-TR criteria, the Attention-Deficit Hyperactivity Disorder Test (ADHDT) was employed. ADHDT is based on the DSM-IV. This instrument consists of three categories: Hyperactivity (13 items); Impulsivity (10 items); and Inattention (13 items). The items use a 3-point Likert scale with 0 representing no problem, 1 representing a mild problem, and 2 representing a severe problem. The author reported reliability with Cronbach.'s alpha coefficient. Cronbach alphas for hyperactivity, impulsivity and inattention were .98, .95, and .98 respectively for teacher ratings.

Social Competency Rating Form. (Gottfredson et al., 2002) . The revised scale consists of 29 items, with 12 negatively worded items and 17 positively worded items. Sample items include: Hits, kicks at, or jumps on other children; If provoked by peers, shows self-control; Solves problems with peers through compromise or discussion; and Expresses concern for others. It has three subscales ; namely Social Skills , social behaviour and impulsivity .All items are answered on a 4-point Likert-type scale, with a 1 indicating "Almost Never", 2 indicating "Sometimes", 3 indicating "Often", and 4 indicating "Very Often.". A study by Allison(2007) shows an adaptation of the SCRF to be a reliable and valid measure for use with elementary school children.

Procedure

ADHD in children was identified using Attention-Deficit Hyperactivity Disorder Test (ADHDT). Additionally, social competency was identified using Social Competency Rating Form .The assessment was done in an environment familiar to the children and during their usual intervention time. Treatment consisted of Emotional Information Processing using Cassady and Justin's Functional Model for Emotional Information Processing. The pretest scores were analyzed to ensure parity among the children .

Treatment group received 10 teaching sessions. The duration of each session would be 25-30 minutes. While treatment group children received training using Cassady and Justin's Functional

Model for Emotional Information Processing ,the control group continued with their regular academic activities . At the completion of the treatment session, children from both groups were tested again on Social Competency Rating Form.

Design and Analysis

The effects of training using Cassady and Justin's Functional Model for Emotional Information Processing on social competence of first graders children with ADHD were assessed using Mann–Whitney U test, Wilcoxon signed-rank test, and Z Value .

Results

Cassady and Justin's Functional Model for Emotional Information Processing and development of Social Competency

The first objective of the study was to determine if use of Cassady and Justin's Functional Model for Emotional Information Processing training would be more effective for the treatment group compared to the control group .For this purpose, the post intervention scores of both treatment and control groups were analyzed. Table 1. shows Z Value results for the differences in post- test mean rank scores between experimental and control groups in Social Competency Rating Form. The table shows that (Z) value was (-2.739). This value is significant at the level (0.01) in the favor of experimental group .

Table 1. *Z Values results for the differences in post- test mean rank scores between experimental and control groups in Social Competency*

Variables	Groups	N	Mean Ranks	Sum Ranks	Mann-whitney	Z Value	Sig
Social Competency	Ex	5	8	40	Zero	-2.739	0.01
	Cont.	5	3	15			

The second objective of the study was to determine the effect of Cassady and Justin's Functional Model for Emotional Information Processing on the development of Social Competency in first graders children with ADHD. The treatment consisted of Cassady and Justin's Functional Model for Emotional Information Processing training. The children's performance on Social Competency was measured pre and post intervention. Table 2. shows Z Value result for the differences in pre-post- test mean rank scores on Social Competency. The table shows that (Z) value was(-2.041). This value is significant at the level (0.01).This indicates that use of Cassady and Justin's Functional Model for Emotional Information Processing training had a positive effect on the development of Social Competency in first graders children with ADHD.

Table 2. *Z Values results for the comparison of mean rank scores of experimental group at pre- and post intervention in Social Competency*

Variables	Negative	Positive	Z Value	Sig.
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	Ranks		Ranks			
	Mean	Sum	Mean	Sum		
Social Competency	3	15	Zero	Zero	-2.041	0.01

Discussion

The present study evaluated the effects of Cassady and Justin's Functional Model for Emotional Information Processing on the development of Social Competency in first grade children with ADHD. The study results showed that Cassady and Justin's Functional Model for Emotional Information Processing training was effective in increasing Social Competency of all children participated in this study. The Emotional Information Processing developed for the study was written according to the Cassady and Justin's Functional Model for Emotional Information Processing (2008).

The scenarios used in this training were effective , and this was interesting , as Cassady and Justin(2008) put it " we believe an Emotional Information Processing (EIP) model may be a useful tool to observe, explain, and predict human agency in response to emotional scenarios..... we view this proposed framework as a meaningful mechanism through which diverse bodies of literature can be examined to explore the functional relationships among emotional intelligence, cognitive processes, and self-regulation.".(P.28).

The present study contributes in several ways to the effectiveness of Emotional Information Processing (EIP) model literature. First, findings from this study demonstrate the potential benefits of using the Emotional Information Processing (EIP) model intervention as the sole intervention to increase the social competency of first graders children with ADHD. Second, this is the first experimental study to be conducted on Cassady and Justin's Functional Model for Emotional Information Processing

Furthermore, the children in this study did not receive any type of reinforcement or behavior modification strategies while participating in the sessions. Removing strategies such as prompting techniques, token systems, and other reinforcement systems reduced the potential for confounds within the study. Therefore, one can conclude that the social story intervention was primarily responsible for the change in the social skills of children participated in the study .

In summary, Cassady and Justin's Functional Model for Emotional Information Processing training effectively increased the Social Competency of all children participated in this study. Overall, results from this study contribute to the Emotional Information Processing (EIP) model literature for improving the Social Competency in first grade children with ADHD.

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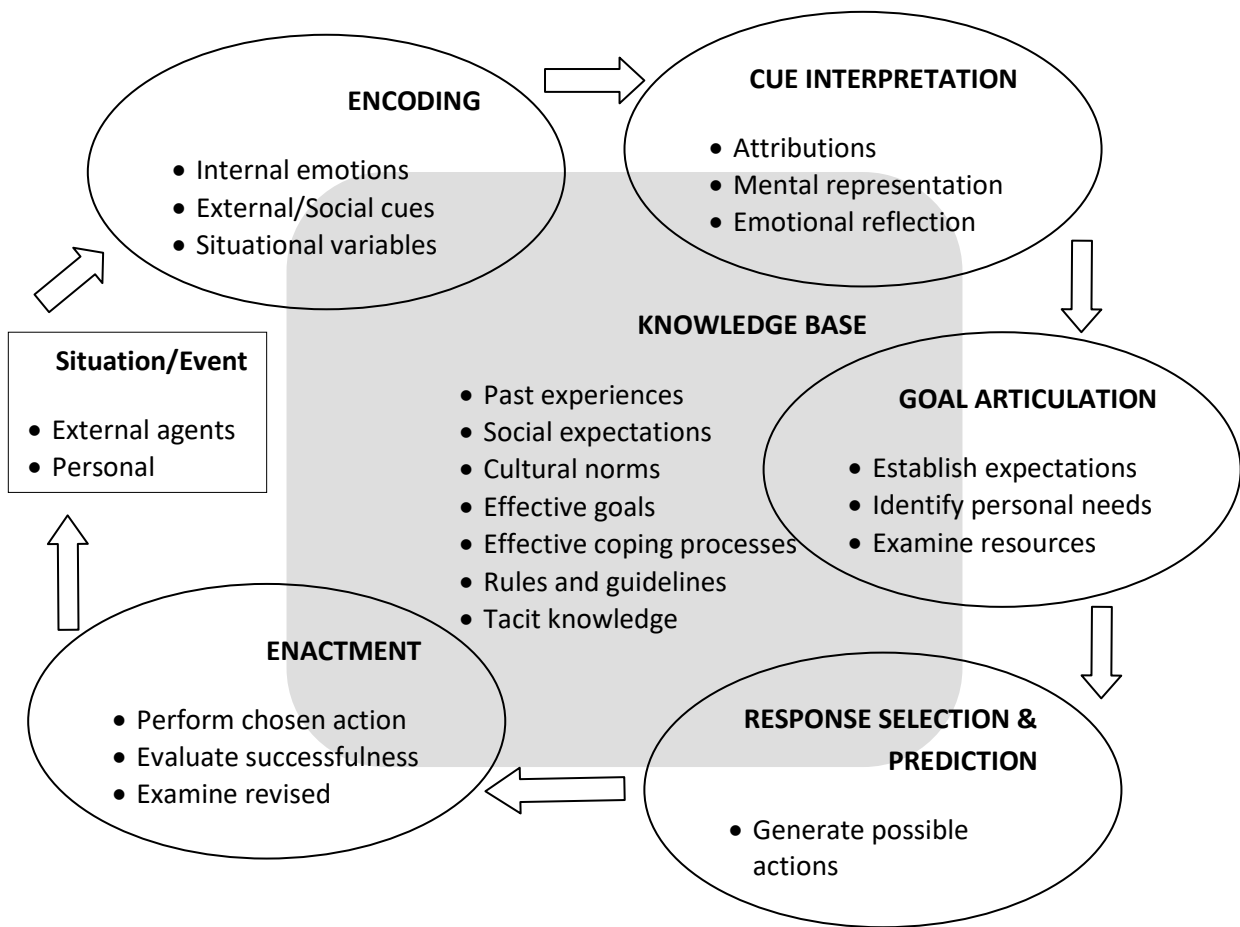
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Figure 1. Emotional Information Processing Model



(Cassady and Justinm2008, P.43)