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KEYWORDS: anxiety, emotion-cognition relationship, emotional reactions, anxiogenic stimuli, school adjustment, school performance, social adjustment, cognitive distortions, social support

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## **INTRODUCTION**

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The thesis entitled „Methods for detecting preschool and primary school emotional disorders. Implications for school and social adjustment” aims at exploring the relationship between cognitive processes and affective states in terms of school and social adaptation. The theoretical and experimental approach aims to revise existing scientific models about the mutual relationship between cognitive and emotional processes, with reference to their role in determining academic achievement and social adaptation.

Using the existing theoretical models and scientifically validated experimental data as a starting point, the thesis is aimed at developing an adequate methodology for early detection of the risk of maladaptation in the school context, in case of preschool and primary school children. The detailed exploration of the emotional and cognitive processes in the context of social interactions is the condition for diminishing the risk of school failure and also the condition of adequate adaptation.

For the early identification of children with emotional problems manifested in the school context there is a need to develop effective screening tools. With the acknowledgement of the role of emotions in determining adequate school adjustment, interventions based on the facilitation of children’s skills to understand emotions and use their functions properly, aimed at preventing school failure acquire great significance.

The development of a battery of validated and standardized instruments on Romanian population would not only be a step towards early detection of school adjustment problems, but – by means of the details regarding the character of maladaptation - the battery of tests could constitute the basis for prevention and intervention.

### **Conceptual delimitations**

#### *Affect, emotion, mood*

Most often the scientific literature on emotions refers to the terms of affect, emotion and disposition interchangeably, because of the lack of clear definitions. The term affect is

considered a more general one, including both emotions and moods (Simon, 1982, Forgas, 1995a, *apud* Scherer, 2001). *Emotions* refer to more intense emotional reactions that are shorter and more specific in the sense that we can identify a cause behind them, and the person is aware of the experienced feelings, through cognitive information available about the antecedents, consequences and responses related to that emotion. Compared with the emotions, moods are considered less intense but longer-lasting, nonspecific emotional states (without a specific cognitive content).

*School and social adaptation*

Adequate adaptation is based on the child's ability to use internal and external resources in order to adjust their capacity and necessities to the requirements imposed by the environment they are living in (Sroufe & Rutter, 1984, *apud* Mash & Dozois, 1996). In school context adaptation refers to both meeting the conditions imposed by the syllabus and the effective social integration into the school environment.

**2. THEORETICAL PARADIGMS AND METHODOLOGY  
IN THE STUDY OF EMOTIONS:  
IMPLICATIONS REGARDING THE EDUCATIONAL CONTEXT**

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Depending on the adopted theoretical paradigms, the studies on emotions are based on different research methods. Experimental plans are using emotions either as independent or as quasi-independent variables, perceived as dimensions or categories associated with changes in other variables or as dependent variables, their quality and intensity being influenced by other factors. The studies in which emotional states are independent variables, are based either on experimental induction of these states, either on natural emotional reaction in time, either on emotional traits or emotional disorders.

### **3. EMOTIONAL DEVELOPMENT FROM THE PERSPECTIVE OF SCHOOL AND SOCIAL ADAPTATION**

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Emotional adjustment problems tend put their negative bearing on school performance even in the first years of school. Children at risk of school failure are especially vulnerable to emotional problems. Although the emotional skills necessary for adaptation have their autonomous development, often children at drop-out risk can develop their mechanisms of processing and interpretation of information with emotional content only with guidance and direct intervention.

In order to highlight the role of emotional factors of school and social adjustment, the following chapter discusses the terms of emotional competence (emotional regulation, expressing emotions, emotional understanding), emotional maturity, normative emotional development (basic and conscious emotions), disorders of emotional development and anxiety in school (generalized anxiety disorder, social phobia, test anxiety).

### **4. THE RELATIONSHIP BETWEEN EMOTION AND COGNITION FROM THE PERSPECTIVE OF SCHOOL AND SOCIAL ADAPTATION**

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The analysis of the interaction between the cognitive and affective processes tackles two phenomena: the influence of emotional states on cognitive performance and vice versa, the influence of cognitive evaluations on affective states. The effect of cognitions on emotions acquires significance in determining the quality of emotional experiences. The cognitive assessment of internal or external stimuli greatly influence the emotional states triggered.

Another approach of the influence of cognitive processes on affective states refers to the way cognitive schemata may affect the emotional adaptation. The influence of affective states on cognition is probably an even broader topic of study especially in the literature of school adjustment, referring to the modalities in which the affective states - emotions, moods,



personality traits or mood disorders - can affect the processing, storage or recall of certain pieces of information.

Despite the major progress in the study of the interrelation between cognitive processing and emotional states, there are still a number of theoretical and empirical limitations, especially in adapting the existing models to the school context. The theoretical models and the empirical data are often incompatible.

## **5. THE EMOTIONAL FACTORS OF SCHOOL AND SOCIAL ADJUSTMENT**

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Anxious children with problems in adaptation frequently show simultaneous deficits in cognitive and emotional processing (Nigg & Huang-Poolock, 2003, *apud* Snyder, Prichard, Schrepferman, Patrick & Stoolmiller, 2004). The early emotional development is critical for training the cognitive and social skills necessary for adequate school functioning (Leerkes *et al.*, 2008).

School adjustment is a multilateral process, the quality of which depends on a number of cognitive (eg. skills, cognitive style, etc.), *emotional* (eg. Emotions connected to learning, moods and affective personality traits, such as anxiety, affective regulation, etc.) and *motivational* (eg. need for competence, achievement goals, effort management, perseverance, etc.) factors. Interactions between these factors determine the performances and their interpretation in terms of success or failure, and also finding their possible causes, the acknowledgement or avoidance of one's own responsibility; affect the way how performances manifest at the affective level in the complex emotions of pride or shame, etc.

The cognitive, emotional and motivational factors of performance are interdependent. The way these areas of psychological functioning are entwined in determining psychological adjustment in and out of the school context, justifies a cyclical process in which all the achievements and failures are all an integral part of how the person thinks about his/her qualities, skills or the challenges imposed by school or social environment and which will influence future performance.

## 6. STUDY 1. THE ADAPTATION OF THE *INTERNATIONAL AFFECTIVE PICTURE SYSTEM IAPS*

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### 6.1. *Objectives and hypotheses*

#### **Theoretical Objectives**

The study aims (a) to outline the bidimensional (valence – arousal) affective space in primary school-age children and (b) to enrich the knowledge referring to another emotional dimension: control.

It also proposes (c) the elaboration of a triarchical model of the affective space embedded in the appetitive and aversive motivational systems through (d) the exploration of the role played by the dimension affective control in the triggered emotional reactions (dimension explored in terms of the semantic differentiator framework, but often neglected in the study of emotional reactions).

Another aim (e) is outlining the specifics of the affective reactions in *intercultural* and *gender* comparisons and comparisons depending on the *affective disorders of anxiety*.

#### **Methodological Objectives**

From the methodological point of view, the study aims (a) the calibration and adaptation of the international affective pictures system (IAPS, International Affective Pictures System, Lang, Bradley & Cuthbert, 2005) by SAM Emotional Assessment System (Self Assessment Manikin, Lang, 1980) on a Romanian sample.

By analyzing data from a Romanian sample we seek (b) to complete the existing empirical data on the relationship between the affective dimensions valence and arousal and control.

#### **Practical Objectives**

From the perspective of implementing the conclusions of this study we note the relevance of the following objectives: (a) exploring the emotional reactions in terms of their valence and intensity depending on the activated motives, (b) examining the role of affective

control in mediating the relationship between valence and arousal. Another aim is (c) the analysis of how anxious children react to stimuli with varied semantic content.

**In relation to these objectives, we assume that:**

1. Self Assessment Manikin SAM (Self Assessment Manikin, Lang, 1980) will differentiate between IAPS stimuli (International Affective Pictures System, version for children; McManis, Bradley, Berg, Cuthbert & Lang, 2001) with different emotional characteristics.

2. In terms of emotional dimensions of the IAPS pictures there will be no significant differences between American and Romanian population.

3. The affective dimensions of the IAPS pictures will differentiate between children with and without symptoms of anxiety.

## ***6.2. Method***

### **6.2.1. Participants**

The study was conducted on a sample of children aged 7-10 years, selected by quasi-random selection of school classes to which they belong (grades I-III, N = 187), from different counties of Romania. The distribution by sex is 87 boys and 100 girls.

### **6.2.2. Materials, instruments, equipment**

**International Affective Picture System** (IAPS, International Affective Pictures System, Lang, Bradley & Cuthbert, 2005) version for children (McManis, Bradley, Berg, Cuthbert and Lang (2001)

**Affective Assessment System Self Assessment Manikin SAM** (Lang, 1980)

**Anxious Behavior Observation Sheet**

**Table 1. Experimental design**

Quasi-independent variable	Anxiety								
Independent variable	Generalized anxiety			Social phobia			Lack of anxiety		
Semantic content	Affective valence	Arousal	Control	Affective valence	Arousal	Control	Affective valence	Arousal	Control

### 6.2.3. Procedure

Table 1 presents the experimental design of Study 1.

Each child was given a detailed SAM notebook and the three emotional dimensions were presented in detail, and so was the use of the book in marking the emotional reactions evoked by the images that were to be presented. The evaluation of IAPS pictures by children in the study on the dimensions valence, arousal level and control took place after the individual presentation of each image. The IAPS pictures were shown randomly, using a computer program, to ensure random order and equal distance in time.

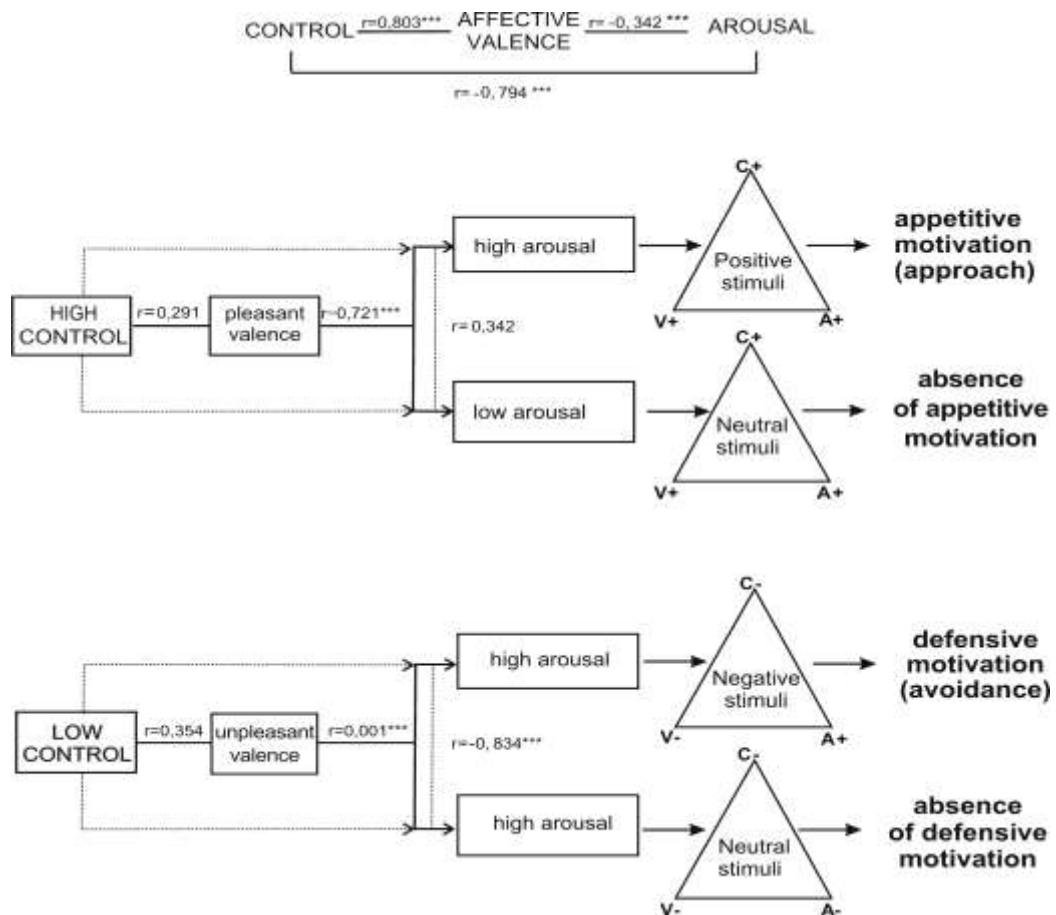
### **6.3. Results and discussion**

In this study a dimensional approach of the affective reactions - based on the functionalist perspective of emotions - was used. By reducing the number of a series of components of the emotional process to three (valence, arousal, control), Osgood's concept of the differentiator and thus the SAM emotional assessment system is a reductionist approach to the evaluation theories.

Based on the data of the current study (similar with the existing empirical data on the relationship between the emotional dimensions of valence and arousal), a bi-dimensional (valence – arousal level) emotional space was outlined in case of primary school-aged children in Romania.

By developing a triarchical model of the affective space (Figure 1) we aimed to enrich the empirical data concerning the relationship between the emotional control and the emotional valence, on one side, and the arousal on the other.

**Figure 1: The triarchical model of the affective space**



The positive covariance between these two affective dimensions in case of the stimuli with pleasant valence suggests that in case of the arousal of the appetite motivational system, the intensity of emotional reactions varies depending on stimulus valence. In case of the arousal of the avoidance motivation, the intensity of negative affective reactions is rather the function of perceived control over the stimulus/aversive situation.

Different semantic categories of stimuli are associated with specific affective profiles (Table 2), signaling they might have a compact location in the affective space: valence-arousal-control.

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**Table 2. The affective characteristics of the IAPS stimuli**

Affective dimensions			Active motifs	Semantic categories	IAPS Code		
Affective control	Affective valence	Arousal					
Positive Stimuli	Arised Control (m>6)	Pleasant valence (m>6)	High arousal (m>5)	Physiological, nutritional needs	Objects (sweets)	7250,7330	
				Attachement/nurture need	Animals/persons	1920,2660	
				Need for seeking strong stimuli	Objects (vehicles)/persons/ action/scenarios	5450,8260, 8490,8620	
				Estetical needs	phenomena	5480,5910	
Pleasant Stimuli	Medium Control	Pleasant valence	Low arousal (m<5)	Physiological, nutritional needs	Objects (sweets)	2650,7390, 7400,7410,7430	
				Attachement/nurture need	Animals/persons	1710,1750,2070	
				Need for seeking strong stimuli	Objects (vehicles)/persons/ action/scenarios	7510,8510	
				Estetical needs	plants	5020,5030	
Neutral Stimuli	Medium Control	Neutral valence	Low arousal (m<5)	Lack of activated motifs	persons	2190,2280, 2780,2890	
					persons in actions/scenarios	2320	
					Objects (domestic)	7000,7010,7030	
					Objects (domestic)	7080,7090, 7150,7170	
					objects (others)	7100	
Unpleasant stimuli	Medium Control	Unpleasant valence	Low arousal (m<5)	Lack of activated motifs	Nausia/horror	animals	1280,7380
					Natural danger	phenomena	5950
					Human aggression	persons	2130, 2810
					Animal aggression	animals	1040,1120, 1300,1930
Negatative Stimuli	Low control (m<4)	Unpleasant valence (m<4)	High arousal (m>5)	Lack of activated motifs	Nausia/horror	objects	9480
					Instrumental aggressions	objects	6230,6300
					Human aggression	Persons in action/scenarios	3500,3530,6370
					Suffering/diseases	Persons in action/scenarios	3230,3280, 9050,9421

By the interpretation of the affective space in terms of the appetitive and aversive motivational systems, our approach fits into the paradigm of biphasic motivation (Arnold, 1960; Konorski, 1967, Dickinson & Dearing, 1979, Davidson, Ekman, Saron, Senulis & Friesen, 1990, Lang, Bradley & Cuthbert, 1990, Cacioppo & Berntson, 1994, Cacioppo,

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Berntson & Crites, 1996, Lazarus, 1966, 1991, 1999). The content analysis of the stimuli demonstrates a sequentiality of the stimuli from different semantic categories in their effect on primary motivational systems.

In conclusion, based on data obtained, it can be said that the SAM emotional assessment system differentiates the IAPS stimuli with different emotional characteristics based on all three affective dimensions (valence, arousal and control) under study.

The study focuses on outlining the specifics of emotional reactions depending on the cultural environment in which children live. The differences are reflected, on one hand, in a strong trend of Romanian children to react less intensely to the positive stimuli and, on the other hand, in the overstatement of control on case of both positive and negative stimuli, compared to American children (Table 3). By the lack of positive bias, the affective profile of the Romanian children is more similar to that of children in the Nordic countries than that of children in Western cultures (Bradley and Lang, 2005).

**Table 3. Cultural differences of the affective reactions depending on the motivational system**

Cultural differences	IAPS image codes		
	Valence	Arousal level	Control
Physiological/nutritional needs		2650,7400,7430	
Attachment/nurture needs		1920	
Need for sensation-seeking	7510	5450,8490,8510	7130,8260,8510
Esthetical needs			5030
Suffering	3280,9050		9050
Danger/ Human/instrumental aggression	3500,3530,6300		2120,2130, 3500,3530
Danger/animal aggression			
Natural danger			
Nausia/horror	9480		9480
Lack of active motifs	2890	2190	2190,2320,7030, 7040,7150

Another noteworthy result is that differences in perceived control can be seen in the case of positive stimuli as well. This facts supports the existence of real differences in terms of self-safety level between Romanian and American group, suggesting that local children's

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tendency to assess control as being more positive is a general one and is manifested in the independence of control and the child's real abilities and experiences.

All these intercultural differences confute the assumption that emotional responses are independent of the cultural environment. Thus we consider the term "culture-free" or "cross-cultural" to be a misnomer, not suited to describe the IAPS system, fact that confirms the need for calibration and its adaptation to the Romanian population.

Another objective of the study was the exploration of the differences between children with and without symptoms of anxiety. The results support our hypothesis (the emotional dimensions of the IAPS images can distinguish between children with and without symptoms of anxiety) only partially. Only pleasant IAPS pictures could differentiate between children with and without symptoms of anxiety, unpleasant ones did not (Table 4).

**Table 4. The differences between children with and without symptoms of anxiety in the evaluation of the positive and negative IAPS picture on affective dimensions**

IAPS images	Group	M(AS)	t/d	df	p
<b>Valență afectivă</b>					
Positive images	Control group	8,06 (0,98)	3,773**	133,443	0,001
	Anxious group	7,25 (1,75)			
Negative images	Control group	3,50 (1,93)	0,582	176	0,561
	Anxious group	3,34 (1,84)			
<b>Arousal</b>					
Positive images	Control group	5,36 (2,25)	0,308	180	0,758
	Anxious group	5,46 (2,11)			
Negative images	Control group	6,19 (1,87)	0,478	174	0,634
	Anxious group	6,05 (2,00)			
<b>Control</b>					
Positive images	Control group	6,92 (1,60)	2,706**	175	0,007
	Anxious group	6,25 (1,68)			
Negative images	Control group	4,06 (1,96)	0,682	168,92	0,496
	Anxious group	3,87 (1,69)			

\*\* p < 0,01.

Out of the three affective dimensions, intensity of reactions does not differentiate between anxious and non-anxious children, but the anxiety syndrome appears to be manifested



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in the underestimation of the pleasantness of the positive stimuli and the undervaluation of their own resources to face them.

The comparisons between the sexes supports Bradley and Lang's data (2005) on the presence of negative biases in case of girls only in the evaluation of the valence of the images and emotional control (Table 5). In the Romanian subject's group the girls evaluated the negative stimuli as being more unpleasant and considered themselves more helpless than boys, but this negative bias did not trigger more intense emotional reactions.

**Table 5. The difference between sexes in the emotional reactions to positive and negative stimuli**

			M (AS)	t/d	df	p
Valence	Positive images	Boys	8,20 (1,08)	1,046	90	0,298
		Girls	7,98 (0,91)			
	Negative images	Boys	4,97 (1,93)	6,178**	51,795	0,001
		Girls	2,65 (1,35)			
Arousal	Positive images	Boys	5,77 (2,62)	1,289	59,431	0,203
		Girls	5,11 (1,97)			
	Negative images	Boys	6,36 (1,60)	0,679	76,640	0,499
		Girls	6,09 (2,01)			
Control	Positive images	Boys	6,84 (1,70)	0,369	88	0,713
		Girls	6,97 (1,54)			
	Negative images	Boys	4,87 (2,17)	2,746**	50,232	0,008
		Girls	3,63 (1,71)			

\*\* p < 0,01.

The standardized affective pictorial stimuli contribute to increased experimental control in the selection of emotional stimuli. They can be used to induce different moods in various fundamental and applied psychological researches, with the emphasis on studying the phenomenon of cognitive distortions associated with emotional problems.

## 7. STUDY 2. THE DEVELOPMENT OF *SCHOOL AFFECTIVE PICTURES SYSTEM SIAS*

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### *7.1. Objectives and hypotheses*

#### **Theoretical Objectives**

The study aims at exploring the way children with school anxiety react when faced with interpersonal or performance scenarios taken from this environment. There is evidence of that anxiety is associated with underestimation of their abilities to cope with situations (Waters, Craske, Bergman & Treanor, 2008; Bögels & Zigterman, 2000; Kendall & Chansky, 1991). This second study proposes the elucidation of the following issues: (a) the extent to which anxious children differ from those non-anxious in assessing control, (b) if the anxiety criterion differentiates the children with social phobia from those with generalized anxiety disorder situations specific to the school context; (c) whether the specificity of emotional reactions of children with school anxiety is linked only to secondary assessment or if it is reflected in the primary evaluation of the stimuli as well.

The study also aims at outlining the "approach and avoidance" motivation in the context of school and social adaptation. Exploring the differences in the motivational system of children with and without school adjustment problems can contribute to a better understanding of emotions or behaviors in challenging school-related situations.

#### **Methodological objectives**

The study pursues the elaboration of a set of emotional images relevant in terms of social and school adaptation (SIAS). By outlining the emotional profile of children with social phobia or generalized anxiety, respectively non-anxious children, this set can be used in the differential diagnosis of anxiety in the school context. The study therefore has the aim to provide empirical data for a computer program for early detection of the predisposition to anxiety.

Another rationale for the elaboration of this set of images is the importance of taking into account the criterion of specificity in the study of cognitive biases induced by school

anxiety. According to this line of study, the affective valence and the arousal - taken into account separately - are insufficient to cause cognitive distortions.

By means of the School Affective Pictures System (SIAS), the various tests used in the literature to explore the cognitive biases can be adapted for children who exhibit anxiety in social or performance situations, in order to explore the cognitive biases caused by school stress.

### **Practical objectives**

Based on data to be obtained by means of this study the opportunity to develop a computer program for early detection of anxiety disorders will arise.

Although the school environment is meant to confront children with various consecutive challenges, in order to teach them how to cope with them, for the anxious children these often transform from challenges to threats, and thus can lead to school failure. A set of relevant stimuli in terms of school and social adaptation is considered an appropriate means for understanding the way different situations are represented by anxious and non-anxious children.

The hypotheses of the study are:

1. The images of the SIAS are suitable to detect the affective reactions specific to the school context.
2. Faced with SIAS stimuli, children with anxiety disorder will present lower control than children who show no symptoms.

## ***7.2. Method***

### **7.2.1. Participants**

The study was conducted on a sample of children aged 6-10 years (N = 174, grades I. - III), selected quasi-randomly from schools from different counties of Romania. The distribution by sex is 77 boys and 97 girls. The selection of participants with and without

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symptoms of anxiety in the school context was done according to the procedure described in Study I.

**7.2.2. Materials, instruments, equipment**

**School Affective Pictures System (SIAS).** The emotional images in school context are a system developed in this thesis. The set of images includes various themes related to the vulnerability in interpersonal, performance and evaluation-related situations, specific to the school context (Table 6).

**Table 6. School performance and social interactions in SIAS images**

	Semantic content	SIAS code
School performance	Attendance to a lesson	3, 5, 12, 17, 18, 19, 21, 22, 28, 29, 30, 31, 33, 34, 38, 49, 50, 51, 53, 55, 57
	Oral response	26, 32, 36, 40
	Creative activity	23, 42
	Sports	24, 37, 54
	Guidance, reprehension	6, 10, 11, 13, 15
Social interactions	Reprehension	4, 7, 8, 9, 20, 25, 27, 43, 44
	Exclusion/offence/loneliness	2, 35, 52, 56
	Solidarity/celebration	14, 39,41
	Leisure/play	1, 16, 45, 46,47, 48

**SAM Affective Assessment System Self Assessment Manikin** (Lang, 1980, *apud* Lang, Bradley & Cuthbert, 2005)

**Anxious behavior observation sheet**

**Table 7. Experimental design**

Quasiindependent variable  Independent variable	Anxiety								
	Generalized anxiety			Social phobia			Lack of anxiety		
Semantic content	Affective valence	Arousal	Control	Affective valence	Arousal	Control	Affective valence	Arousal	Control

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**7.2.3. Procedure**

Table 7 presents the experimental design of Study 2.

To validate the effectiveness of the emotional image set relevant in terms of school and social adaptation, nine experienced school psychologists independently evaluated the semantic relevance of 200 images. Of these, 57 color photos, included into the SIAS, were subsequently evaluated by children using the SAM Affective Assessment System. The assessment procedure of the SIAS stimuli was the same as in the IAPS calibration study.

**7.2.4. Results and discussion**

The summed social and performance failures (real or perceived wrongly because of an unrealistic reference framework) lead to the development of a distorted frame of interpretation of school scenarios. The findings support the existence of a continuous state of alert in children with anxiety, characterized by low perceived control and high intensity of emotional reactions, even in schools-related situations with increased positive atmosphere (Table 8).

**Table 8. Inter-group comparison regarding arousal and control depending on the presence or absence of symptoms of school anxiety**

Affective dimensions	SIAS	Group	M (AS)	t/d	df	p
Arousal	Entire set	control	4,03 (1,55)	2,376*	172	0,019
		anxious	4,60 (1,61)			
	Positive images	control	4,18 (2,03)	1,163	172	0,246
		anxious	4,53 (1,95)			
	Negative images	control	5,01 (1,73)	0,760	172	0,449
		anxious	5,22 (1,88)			
Control	Entire set	control	6,67 (1,52)	4,464**	172	0,001
		anxious	5,64 (1,50)			
	Positive images	control	7,27 (1,58)	4,374**	172	0,001
		anxious	6,23 (1,54)			
	Negative images	control	5,56 (1,99)	3,294**	172	0,001
		anxious	4,59 (1,87)			

\*p < 0,05; \*\* p < 0,01

The data is consistent with the fact that, in challenging situations, anxious children tend to neglect the external information - and thus the real aspects of the given situation - because they rather focus on mental representations of similar scenarios encountered in the past (Fernandez, Davis & Higa, 2007).

In accordance with to Hirsch and Clark (2006), Bögels and Zigterman (2000), Kendall and Chansky (1991), the study shows that anxious children are characterized by low control. The low self-esteem regarding school situations inevitably results in the reduction of approach motivation, which in turn affects anxious children's attitudes towards school. The data of this study, as well as the results of Daleiden and Vasey (1997) show that anxious individuals tend to adopt more avoiding solutions in threatening situations.

Due to their emotion-generating character, the SIAS images representing interpersonal or performance scenarios create an opportunity to analyze and re-analyze possible causes or consequences of the presented scenario, as well as the motivation, emotions or behavior of the characters. Thus, in addition to the diagnostic purposes, the items of the set can become the basis of psychological interventions used in the prevention school anxiety.

## **8. STUDY 3. INTERPRETATION BIASES OF SOCIAL AND PERFORMANCE SCENARIOS ASSOCIATED WITH ANXIETY**

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### ***8.1. Objectives and hypotheses***

#### **Theoretical Objectives**

The biased interpretation of social information is a frequently discussed phenomenon in the literature of social phobia.

The present study proposes the following theoretical objectives: (a) to clarify the differences in the interpretation of ambiguous scenarios between children with symptoms of social phobia, generalized anxiety and non-anxious children; (b) to explore the specifics of performance/evaluation content in comparison with the social/interpersonal and their effect on the interpretation, (c) to clarify the immediate impact of ambiguous social and performance

scenarios on the valence and intensity of the affective experiences, and the level of control beliefs related to the situation.

### **Methodological Objectives**

From the methodological point of view, we propose the evaluation of ambiguous verbal scenarios representing events from the everyday life of schoolchildren. The semantic content of these scenarios (vignettes), specific to the school environment, can contribute to a better understanding of the way anxious and non-anxious children perceive and react to some challenges in this context.

The inclusion of various indicators concerning the phenomenon of interpretation contributes to a multi-factor analysis of the phenomenon of interpretation bias in relation with anxiety. Measurements used in the study assure a quick outlining of the first reactions to these scenarios.

### **Practical objectives**

The information processing style is formed in the first years of childhood. The anxiogenic ideation becomes more and more complex and alarming after the age of five or six years with the development of self concept (Vasey, 1993, Vasey et al, 1994, *apud* Bögels & Zigterman, 2000). The social and performance scenarios elaborated in this study are adapted for this age group (preschool and primary school age).

The present study aims at exploring those differences in interpretation and control of school situations which occur early and could form the basis for differentiating prediction of children prone to anxiety in the school context.

The study also aims to analyze how the social adjustment of children affects the interpretation style of ambiguous school scenarios and the immediate emotional reactions they initiate.

In relation to these objectives it is hypothesized that:

1. Anxiety predisposes to negative interpretation of ambiguous social and performance situations.
2. Anxiety is associated with underestimation of their abilities to cope with school social and performance situations.
3. The social adjustment of children is associated with the level of control in school social and performance situations.

## ***8.2. Method***

### **8.2.1. Participants**

This study was conducted on a sample (N = 189) of preschool and school-aged children (6-11 years) with and without symptoms of anxiety. Percentage composition by gender is 41% boys and 59% girls. The group of anxious children consisted of 130 children, 78 children (60%) with symptoms of social phobia and 52 children (40%) with symptoms of generalized anxiety.

### **8.2.2. Instruments**

**Anxious behavior observation sheet for teachers**

**Ambiguous social and performance scenarios**

**SAM Affective Assessment System Self Assessment Manikin** (Lang, 1980, *apud* Lang, Bradley & Cuthbert, 2005)



**Table 9. Experimental design**

Quasi-independent variable	Anxiety					
Independent variable	Social phobia		Generalized anxiety		Lack of anxiety	
Social scenarios	Interpretation*	Affective reactions**	Interpretation*	Affective reactions**	Interpretation*	Affective reactions**
Performance scenarios	Interpretation*	Affective reactions**	Interpretation*	Affective reactions**	Interpretation*	Affective reactions**

\*the quantity of the information necessary to foresee a negative ending (scale 1-6); unpleasantness of the scenarios (9-point Likert scale); decision regarding the ending of the story (good/bad).

\*\* affective valence, arousal and perceived control (9-point Likert scale).

### 8.2.3. Procedure

Table 9 presents the experimental design of Study 3.

The selection of participants with and without symptoms of anxiety in the school context was done according to the procedure presented in Study 1.

The cognitive biases were measured with the method of interpretation called "scenario-based interview (vignette interview) by Muris, Kindt *et al.* (2000). During the procedure, children were read the scenarios consecutively and they were asked to decide, for each situation, sentence after sentence, if the “story” would end well or badly. If the child gave the answer that the story will turn out badly, he/she was asked to evaluate on a 9-point Likert scale how bad it would end (1 = least bad, 9 = very bad). After each story the emotional reactions of the children were measured as well, using the SAM Affective System, along the dimensions of valence, arousal and control.

### **8.3. Results and discussion**

Study 3 aimed to explore the interpretation biases associated with anxiety at preschool and primary school age. By elaborating an anxiety-specific semantic content, relevant from the point of view of performance and social interactions, the present study is in conformity with research conducted by Mierst *et al.* (2008) or Bögels *et al.* (2003) and emphasizes the fact that cognitive, emotional and behavioral reactions of anxious children require differential analysis in different life situations. Information-processing biases may be specific to their semantic content. Thus, a number of studies show that there are no differences between

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children with social phobia and non-anxious children in the interpretation of non-social situations (Amin, Foa & Coles, 1998; Constans, Golden, Taghavi, Neshat-Doost, Moradi & Yule, 1999, Huppert, Pasupuleti, Foa & Mathews, 2003; Voncken, Bögels & de Vries, 2003; Wilson & Rapee, 2005).

The results show clearly that there is a tendency for anxious children to react differently when faced with school situations linked with evaluation and performance than non-anxious children. The differences consist in an state of alert for anxious children, which manifests itself most often in (a) the predisposition to anticipate negative consequences of ambiguous situations, even when based on insufficient information, (b) the overestimation of the unpleasantness of the consequences, (c) the propensity to consider the negative consequences more likely than the positive ones, (d) low level of control in such situations (Table 10).

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**Table 10. Mann-Whitney test for the analysis of interpretation bias of ambiguous scenarios associated with anxiety**

	Diagnostic criterion	N	M	U	Z	p
Necessary quantity of information for estimating the negative ending of performance scenarios	Social phobia	78	64,44	1443	1,557	0,119
	Control	59	75,03			
	Generalized anxiety	51	48,72	1158,5	2,089*	0,037
	Control	59	61,36			
	Social phobia	78	66,92	1839,5	0,727	0,467
	Generalized anxiety	51	62,07			
Unpleasantness of the performance scenarios	Fobie socială	76	74,59	1589	2,624**	0,009
	Control	57	56,88			
	Generalized anxiety	49	62,36	962,5	2,752**	0,006
	Control	57	45,89			
	Social phobia	76	62,11	1794	0,349	0,731
	Generalized anxiety	49	64,39			
Frequency of negative estimations of performance scenarios	Fobie socială	78	75,35	1805,5	2,165*	0,030
	Control	59	60,60			
	Generalized anxiety	52	60,83	1283	1,492	0,136
	Control	59	51,75			
	Social phobia	78	67,85	1860,5	0,801	0,423
	Generalized anxiety	52	62,28			
Affective control facing performance scenarios	Social phobia	48	36,07	555,5	2,966**	0,003
	Control	37	51,99			
	Generalized anxiety	27	27,24	357,5	1,942	0,052
	Control	37	36,34			
	Social phobia	48	37,03	601,5	0,516	0,606
	Generalized anxiety	27	39,72			

\* p < 0,05; \*\*p < 0,01.

Lack of prudence in estimating the consequences of an ambiguous school scenario - measured by the quantity of sufficient information to make the decision - is consistent with the evidence gathered by many authors regarding the fact that anxious children judge ambiguous scenarios based on less information (eg. Barrett, Rapee, Dadds & Ryan, 1996; Bögels van Dongen & Muris, 2003; Bögels & Zigterman, 2000, Chorpita, Albano & Barlow, 1996, Creswell, Schniering & Rapee, 2005, Muris, Kindt *et al.*, 2000, Waters *et al.*, 2008).

The results are consistent with the study of Amin, Foa and Coles (1998), which shows the existence of negative biases specific to social phobia. Also, consistent with the findings of Creswell, Schniering and Rapee (2005) and Stopa and Clark (2000) we have shown that anxious children tend to interpret ambiguous social events negatively. The data is also similar

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with the results of Daleiden and Vasey (1997), showing that anxious children tend to overestimate danger.

On the other hand, because of the evidence on low level of control, the present study is in line with other research, presenting low level of self-efficacy in the case of anxious children in stressful or ambiguous situations (Hirsch & Clark, 2006; Bögels & Zigterman, 2000, Kendall & Chansky, 1991).

Based on these results it can be said that anxiety does not influence other dimensions - such as valence or intensity - of the emotional reactions initiated by the encounter with the school scenarios, presented through verbal means. In this aspect, the present study contradicts claims by Waters *et al.* (2008) showing that anxious children have more intense negative emotions in ambiguous situations. It must be noted, however, that reactions might be different in real-life confrontation with these challenging events.

The study contributes to the clarifying of the role anxious children's social adaptation plays in the reactions to the challenging school situations (Table 11). Social support from classmates may have a good influence on the level of control, but in case the anxiety is associated with lack of adequate social relations, low internal control appears to be inevitable.

**Table 11. Mann-Whitney test for the comparison of perceived control over ambiguous scenarios depending on the social adjustment of anxious children**

Initiation of social intercatations		Scenarios	N	M	U	Z	p
Own initiative	Inadequate	Social	17	13,47	76	1,457	0,145
	Adequate		13	18,15			
	Inadequate	Performance	17	13,53	77	1,418	0,156
	Adequate		13	18,08			
Classmates' initiative	Inadequate	Social	13	11,15	54	2,386*	0,017
	Adequate		17	18,82			
	Inadequate	Performance	13	11,88	63,5	1,990*	0,047
	Adequate		17	18,26			

\*\* p < 0,01

This study demonstrates that although it bears some specific signs, the data processing and interpretation of anxious children can be as complex as that of non-anxious children. Not

taking into account the context and content of the stimuli would cause undue error in the understanding of the information interpretation process of anxious children.

**9. Study 4. Development and  
Effectiveness Study of the Program:  
*Management of Anxiogenic School Situations MSSA***

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***9.1. Objectives and hypotheses***

**Theoretical Objectives**

The present study is based on the data and conclusions of the previous studies in this thesis. According to study 3 about the interpretation biases of information associated with anxiety and in accordance with numerous studies on this subject (Bögels, van Dongen & Muris, 2003, Creswell, Schniering & Rape e, 2005; Bögels & Zigterman, 2000), anxious children are likely to interpret ambiguous stimuli as negative, even on the basis of insufficient information in terms of both quantity and content.

The results of the calibration of IAPS and the elaboration of SIAS show that the reaction caused by an affective stimulus is mediated by the feelings of control: self-confidence regarding the control of the situation decreases the intensity of the initiated negative affective state.

The elaboration of the SIAS and the study of interpretation biases, consistently with other studies in the literature (Hirsch & Clark, 2006; Bögels & Zigterman, 2000), shows clear signs of decreased control of anxious children in case of both visually and verbally presented school scenarios.

From the theoretical point of view, the study aims to examine the effects of previous experiences gained in the analysis of school scenarios affecting self-confidence regarding the control of similar school situations. It also aims to analyze the modalities of transfer between the experiences gained by means of analysis of challenging school situations presented in different ways (pictorial and verbal) and real school functioning.

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The study also seeks to (a) explore the causes underlying the negative representation, perception of school situations as provocative or threatening, (b) clarify its role in triggering them, (c) the ability to elaborate adequate behavioral alternatives and (d) assessment in light of expected outcome – they can all serve as a starting point for developing an applicable method in the reduction of avoidance-related strategies in stressful situations and the enhancement of control over those situations.

### **Methodological objectives**

From the methodological point of view the aim is to develop a method for studying the way anxious children perceive and interpret the school challenges related to performance interpersonal interactions.

This study also proposes to outline effective methods for the modification of representation and biased interpretation of school-related information.

The study also aims to embed these methods into a psychological instrument used for anxiety prevention and intervention in the school context, if the phenomenon has already manifested itself. The MSSA program applies the principles of mediated learning to emotional learning, a neglected aspect of the curriculum. The MSSA is based on Leerkes's *et al.* (2008) 2 \* 2 taxonomy of the processes of cognitive and emotional control and understanding, a model of the cognitive and emotional effects on academic and social success. The emphasis is on developing emotional competence and on using of emotional, cognitive and behavioral landmarks in the interpretation of school situations.

Similarly to studies which have successfully shown that negative interpretation biases in anxious children can be eliminated or improved in the paradigm of ambiguous social scenarios (Hayes, Hirsch, Krebs & Mathews, 2010), this study aims the delineation of parts of analysis and intervention for children with academic and social anxiety.

### **Practical objectives**

Referring to the pragmatic contributions of this study to the literature of social and school adaptation of anxious children, our central objective is to develop methods of intervention for anxious children in order to increase their confidence in their capabilities to

cope with challenging interpersonal situations or school evaluation. Aspinwall and Taylor (1992) and Mattlin, Wethington and Kessler (1990) show that the positive re-evaluation or reinterpretation of problem situations and the expression of the triggered emotions may actually be precursors of problem-solving strategies such as planning to seek social support, or making effort to cope with the situation. On the other hand, cognitive assessment of the situation may have a moderating effect on the triggered negative emotions (Bidell & Fischer, 2006, *apud* Macklem, 2008).

The primary objective of study 4 is to foster academic and social adaptation of anxious children. For this, maladaptive cognitive style must be explored, conceptualized as a specific model of interactions between many information selection, interpretation and evaluation criteria (Gardner, Jackson & Messick, 1960, *apud* Vermigli & Toni, 2004).

Based on similar studies in the literature on the subject and on the presented results of previous studies included in this thesis, the hypotheses of the study are:

1. The MSSA program increases the self-confidence regarding the level of control in anxiogenic school situations.
2. The MSSA program decreases the frequency and intensity of negative interpretation biases regarding interpersonal and performance situations.

## ***9.2. Method***

### **9.2.1. Participants**

55 children (28 boys and 24 girls), aged 7-10 years, with symptoms of anxiety, were included in the study, selected by the procedure presented in Study 1, based on DSM-IV criteria for anxiety disorder and generalized social phobia. The experimental group included 21 children, and the control group included 34 participants.

### **9.2.2. Instruments**

**Anxious behavior observation sheet**

**Ambiguous social scenarios and performance reports**

**Affective Assessment System Self Assessment Manikin SAM**

**School Affective Pictures System SIAS**

**MSSA intervention program** developed in the present study

**Table 12. Experimental design**

Stages of the experiment Independent variable	Pretest	Intervention	Posttest
Experimental group	Ambiguous verbal/pictorial social and performance scenarios	MSSA program	Ambiguous social and performance scenarios
	SAM Affective Evaluation System		SAM Affective Evaluation System
Control group	Ambiguous verbal/pictorial social and performance scenarios	.....	Ambiguous social and performance scenarios
	SAM Affective Evaluation System		SAM Affective Evaluation System

**9.2.3. Procedure**

Table 12 presents the experimental design of Study 4.

The pretest was conducted individually by presenting three ambiguous social and evaluation scenarios, as detailed in the study referring to interpretation biases of anxious children.

The intervention lasted for two months, a total of 10-15 sessions of 30-40 minutes, depending on the rhythm of progress in the scenario analysis. During the intervention facilitating emotional control - begun immediately after the pretest - the analysis of social situations and school performance was conducted with the mediation of the experimenter.

***9.3. Results and discussion***

The purpose of the present study was to facilitate the reinterpretation of the maladaptive mental scenarios regarding school social and performance situations in case of



anxious children. Based on this objective, the aim was to elaborate adaptive models of interpretation of challenging school situations and to increase control in these situations.

Academic and social adaptation is a multi-factorial process, including cognitive, emotional and motivational factors. The model elaborated by Leerkes *et al.* (2008) addresses the issue of anxious children's school and social adaptation using the paradigm of emotion-cognition relationship as a framework, focusing on control and cognitive and emotional understanding. The MSSA intervention program is based on the factors of the mentioned model. The intervention directly targets the affective control processes (reactivity, expression, regulation) and the emotional understanding (meta-emotional knowledge, for example understanding the connections between situations and emotions, understanding the causes of emotions, changing perspective or labeling emotions) and cognitive control processes (such as active involvement seeking and applying adequate strategies to achieve one's goals) and cognitive understanding.

The scenarios represented by the SIAS stimuli offered the opportunity to discuss approach and avoidance, problem-focused and emotion-focused strategies. The causal and behavioral alternatives, formulated during the MSSA program allowed the analysis of reaction strategies based on approach and avoidance motivation and on their behavioral or emotional-cognitive focus.

Although the increase in self-confidence in such schools situations was not revealed in quantitative – statistical indicators, it was observed in the experimenter's and the teachers' reflections on the effects of the intervention program.

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**Table 13. Mann-Whitney test for the assessment of the unpleasant valence of ambiguous school scenarios**

Scenarios		Group	N	M	U	Z	p	
Evaluation of the unpleasant valence of school scenarios	Social	Pretest	Control	31	29,84	294,5	1,083	0,279
			Experimental	21	30,62			
	Performance	Posttest	Control	31	23,95	115	2,503*	0,012
			Experimental	14	20,89			
	Social	Pretest	Control	34	28,16	351,5	0,095	0,924
			Experimental	21	27,74			
Performance	Posttest	Control	31	24,27	177,5	0,970	0,332	
		Experimental	14	20,18				
Frequency of the negative estimation regarding the outcome of the school scenarios	Social	Pretest	Control	31	28,13	352,5	0,080	0,936
			Experimental	21	27,79			
	Performance	Posttest	Control	31	25,65	135	2,020*	0,043
			Experimental	14	17,14			
	Social	Pretest	Control	34	26,68	312	0,783	0,434
			Experimental	21	30,62			
Performance	Posttest	Control	31	22,77	210	0,174	0,862	
		Experimental	14	23,50				

\* p < 0,05.

The reinterpretation of ambiguous school scenarios in a more positive manner is reflected in the quantitative as well as the qualitative analysis of the intervention's effectiveness. Following the intervention the anxious children who had participated, generated negative interpretations ambiguous scenarios less frequently. Even if the predicted outcome remained negative, their unpleasant valence was moderated (Table 13). Gradually, the children accepted the idea of other ways of interpretation of school scenarios, which resulted in making the change of perspective more flexible. In turn, this is a condition of empathy and a factor of emotional competence. Content analysis of the reflections revealed transfer between experiences gained during the analysis of visually presented challenging school situations and real-life school experiences: many participants become more active in their relationships with their colleagues or in solving school tasks. In addition to the avoidance strategy, attempts to initiate interactions and get involved in school tasks appeared.

The MSSA program has proven to be more effective in managing interpersonal situations, but caused some changes in the anxious children's behavior in evaluation and performance situations.

## **10. CONCLUSIONS**

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The present thesis entitled „Methods for detecting preschool and primary school emotional disorders. Implications for school and social adjustment.” proposed the revision, critical analysis and the enrichment of the existing theories and empirical data on cognitive, academic and social adaptation of preschool and primary school-aged anxious children. Anxious children often perform poorly in terms of school achievement, or social status and interpersonal relations.

Based on these, the paper sought to draw up a battery of validated and standardized instruments for studying the adequate emotional reactions of preschool and primary school children in the Romanian population, for early detection of school anxiety and school adjustment problems and for preventing problems of anxious children's school maladjustment.

In the present paper we focused on (a) the need to clarify the role emotional control plays in mediating the relationship between valence and arousal of emotional reactions evoked by different stimuli, respectively (b) the interaction of the three affective dimensions in determining the biphasic approach and avoidance motivation in and out of the school context. We attempted (c) the outlining of the emotional reactions depending on the specifics of the cultural environment in which children live, respectively (d) the exploration of specific emotional reactions of the anxious children compared with those without symptoms of anxiety and differentiation of children with generalized anxiety disorder and social phobia. We also clarified the relationship between social adaptation and interpretation of contextual information about school life, with emphasis on the need to differentiate between the quality of social support from colleagues and the quality of anxious children's own initiatives to interact with others.

Based on anxious children's emotional profile, drawing on the literature on emotional and motivational factors of school and social adaptation, and using the psychological instruments presented throughout the paper (IAPS, SIAS, SAM, ambiguous vignette) (e) a method of facilitating the management of challenging or anxiogenic school situations has been developed. This method, Management of Anxiogenic School Situations MSSA, (f) revealed the flexible and rigid sides of interpretation bias related to social and performance situations.

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These cognitive biases associated with anxiety are permeable by the attempts to form a more adaptive cognitive style in the concerned children. This paper shows that interpretation biases of social or performance situations may be further reduced; their more adaptive interpretation is associated with decreased symptoms of anxiety and a more adequate social behavior.

The skills related to the emotional control and understanding processes develop before the cognitive processes (Blair, 2002, Posner & Rothbart, 2000) and this way they are considered discrete factors of adaptation at preschool age (Leerkes *et al.*, 2008). Based on these and according to Denham (2006) or Leerkes *et al.* (2008), the paper argues in favor of recognizing the need to include in the evaluation of school maturity of some indicators referring to the level of affective development and emotional competence. Although the emotional skills necessary for adapting develop automatically, school children at risk of school failure can often develop adequate emotions only by means of guidance and direct interventions. Anxiety interferes with the proper functioning of academic skills. Providing opportunities for emotional development and training is the condition of a favorable environment for avoiding school and social maladjustment. The inhibiting effect of anxiety in the school context may be moderated or even suppressed by emotional learning.

## SELECTIVE BIBLIOGRAPHY

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- Amin, N., Foa, E.B. & Coles, M.E. (1998). Negative interpretation bias in social phobia. *Behaviour Research and Therapy*, 36/10, 945-957.
- Arnold M.B. (1960). *Emotion and personality* (Vols. I and II). New York: Columbia University.
- Aspinwall, L.G., Taylor S.E. (1992). Modeling Cognitive Adaptation: A Longitudinal Investigation of the Impact of Individual Differences and Coping on College Adjustment and Performance. *Journal of Personality and Social Psychology*, 63/6, 989-1003.
- Barrett, P.M., Dadds, M.M., Rapee R.M. & Ryan, S.M. (1996). Family enhancement of cognitive style in anxious and aggressive children. *Journal of Abnormal Child Psychology*, 24, 187-203.
- Blair, C. (2002). School readiness: Integrating cognition and emotion in a neurobiological conceptualization of children's functioning at school entry. *The American Psychologist*, 57/2, 111-127.
- Bögels, S. M. & Zigterman, D. (2000). Dysfunctional Cognitions in Children with Social Phobia, Separation Anxiety Disorder, and Generalized Anxiety Disorder. *Journal of Abnormal Child Psychology*, April
- Bögels, S.M., van Dongen, L. & Muris, P. (2003). Family influences on dysfunctional thinking in anxious children. *Journal of Infant and Child Development*, 12, 243-252.
- Bradley, M.M. & Lang, P.J. (2005). The International Affective Picture System (IAPS) in the study of emotion and attention.
- Cacioppo, J.T., Berntson, G.G. & Crites, S.L. (1996). Social neuroscience: Principles of psychophysiological arousal and response. In E.T. Higgins & A.W. Kruglanski (Eds.), *Socialpsychology: Handbook of basic principles*, Guilford Press, New York, 72 -101.
- Cacioppo, J.X & Berntson, G.G. (1994). Relationships between attitudes and evaluative space: A critical review with emphasis on the separability of positive and negative substrates. *Psychological Bulletin*, 115, 401-423.

**Methods for detecting preschool and primary school emotional disorders.  
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---

- Chorpita, B.F., Albano, A.M. & Barlow, D.H. (1996). Cognitive processing in children: Relation to anxiety and family influences. *Journal of Clinical Child Psychology*, 25/2, 170-176.
- Constans, R., Golden, A.-M., Taghavi, R., Neshat-Doost, H., Moradi, A. & Yule, W. (2003). Anxiety and judgements about emotional events in children and adolescents. 36/3, February 2004, 695-704.
- Creswell, C., Schniering, C.A. & Rapee, R.M. (2005). Threat interpretation in anxious children and their mothers: comparison with nonclinical children and the effects of treatment. *Behaviour Research and Therapy*, 43/10, 1375-1381.
- Daleiden, E.L. & Vasey, M.W. (1997). An information-processing perspective on childhood anxiety. *Clinical Psychology Review*, 17/4, 407-429.
- Davidson, R., Ekman, P., Saron, C.D., Senulis, J.A. & Friesen, W.V. (1990). Approach/withdrawal and cerebral asymmetry: Emotional expression and brain physiology. *Journal of Personality and Social Psychology*, 58, 330-341.
- Denham, S.A. (2006). Social-emotional competence as support for school readiness: What is it and how do we assess it? *Early Education and Development*, 17, 57-89.
- Dickinson, A. & Dearing, M.F. (1979). Appetitive-aversive interactions and inhibitory processes. In A. Dickinson & R. A. Boakes (Eds.). *Mechanisms of learning and motivation* Hillsdale, NJ: Erlbaum, 203-231.
- Fernandez, S.N., Davis, J.L. & Higa, C.K. (2007). *Self-focused Attention in a Nonreferred Sample of Children*. Unpublished manuscript.
- Hayes, S., Hirsch, C.R., Krebs, G., Mathews, A. (2010). The Effects Of Modifying Interpretation Bias on Worry in generalized Anxiety Disorder. *Behaviour Research and Therapy*, 48/3, 171-178.
- Hirsch, C.R. & Clark, D.M. (2006). Imagery and Interpretations in Social Phobia: Support for the Combined Cognitive Biases Hypothesis. *Behavior Therapy*, 37, 223-236.
- Huppert, J.D., Pasupuleti, R.V., Foa, E.B. & Mathews, A. (2003). Interpretation biases in social anxiety: Response generation, response selection, and self-appraisals, *Behaviour Research and Therapy* 45, 1505-1515.
- Kendall, P.C. & Chansky, T.E. (1991). Considering cognition in anxiety-disordered children., *Journal of Anxiety Disorders*, 5, 167-185.

**Methods for detecting preschool and primary school emotional disorders.  
Implications for school and social adjustment.**

---

- Konorski, J. (1967). *Integrative activity of the brain: An interdisciplinary approach*. University of Chicago Press, Chicago.
- Lang, P.J. (1980). Behavioral treatment and bio-behavioral assessment: computer applications. In: J. B. Sidowski, J. H. Johnson & T. A. Williams (Eds.), *Technology in mental health care delivery systems*, Norwood, NJ: Ablex, 119-137.
- Lang, P.J., Bradley, M.M. & Cuthbert, B.N. (1990). Emotion, Attention, and the Startle Reflex. *Psychological Review*, 97/3, 377-395.
- Lang, P.J., Bradley, M.M. & Cuthbert, B.N. (2005). International affective picture system (IAPS): Affective ratings of pictures and instruction manual. Technical Report A-6. University of Florida, Gainesville, FL.
- Lazarus, R.S. (1966). *Psychological stress and the coping process*. New York: McGraw Hill.
- Lazarus, R.S. (1991). Cognition and motivation in emotion. *American Psychologist*, 46,352-367.
- Lazarus, R.S. (1999). The cognition-emotion debate: a bit of history. In: T. Dalgleish & M.Power (Eds.), *Handbook of Cognition and Emotion*, Wiley, Chichester, 3-20.
- Leerkes, E.M., Paradise, M., O'Brien, M., Calkins, S.D. & Lange, G. (2008). Emotion and Cognition Processes in Preschool Children, *Merrill-Palmer Quarterly*, 54/1, 102-124.
- Macklem, G.L. (2008). *Practitioner's Guide to Emotion Regulation in School-Aged Children*. Springer Science+Business Media, LLC.
- Mash, E.J. & Dozois, D.J.A. (1996). Child Psychopathology: A Developmental-Systems Perspective. In: E.J. Mash & R.A. Barkley (Eds.), *Child Psychopathology*, Guilford Press, New York.
- Mattlin, J.A., Wethington, E., and Kessler, R.C. (1990). Situational Determinants of Coping and Coping Effectiveness. *Journal of Health Social Behavior*, 31/103-122.
- McManis, M.H., Bradley, M.M., Berg, W.K., Cuthbert, B.N. & Lang, P.J. (2001). Emotional reactions in children: Verbal, physiological, and behavioral responses to affective pictures. *Psychophysiology*, 38, 222-231.
- Mierst, A.C., Blöte, A.W. , Bögels, S.M. & Westenberg, P.M. (2008). Interpretation bias and social anxiety in adolescents. *Journal of Anxiety Disorders*, 22, 1462-1471.

**Methods for detecting preschool and primary school emotional disorders.  
Implications for school and social adjustment.**

---

- Muris, P., Kindt, M., Bögels, S., Merckelbach, H, Gadet, B. & Moulart V. (2000). Anxiety and threat perception abnormalities in normal children. *Journal of Psychopathology and Behavioral Assessment*, 22, 183-199.
- Posner, M.I. & Rothbart, M.K. (2000). Developing mechanisms of self-regulation. *Development and Psychopathology*, 12, 427-441.
- Scherer, K.R. (2001). Appraisal Considered as a Process of Multi-Level Sequential Checking. In: Scherer, K.R. Schorr, A. & Johnstone, T. (Eds.), *Appraisal processes in emotion: Theory, Methods, Research*. New York and Oxford: Oxford University Press, 92-120.
- Snyder, J., Prichard, J., Schrepferman, L., Patrick, M.R., Stoolmiller, M. (2004). Child Impulsiveness-inattention, Early Peer Experiences, and the Development of Early Onset Conduct Problems, *Journal of Abnormal Child Psychology*
- Stopa, L. & Clark, D.M. (2000). Social fobia and interpretation of social events. *Behavioral Research and Therapy*, 38, 273-283.
- Vermigli, P. & Toni, A. (2004). Attachment and Field Dependence: Individual Differences in Information Processing. *European Psychologist*, 9/1, 43-55.
- Voncken., M.J., Bögels, S.M. & de Vries, K. (2003). Interpretation and judgmental biases in social phobia. *Behaviour Research and Therapy*, 41, 1481-1488.
- Waters, A.M., Craske, M.G., Bergman, R.L., Treanor, M., (2008). Threat Interpretation Bias as a Vulnerability Factor in Childhood Anxiety Disorders. *Behaviour Research and Therapy* 46, 39-47.
- Wilson, J.K. & Rapee, R.M. (2005). The interpretation of negative social events in social phobia: changes during treatment and relationship to outcome. *Behaviour Research and Therapy*, 43/3, 373-389.