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Title:

EARLY MALADAPTIVE SCHEMAS among children: a new way to screen for depressed child ?

Gli schemi precoci infantili disadatti : un nuovo screening per bambini depressi ?

Running head: EMS among children and depression

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Sommario :

Come possono gli schemi cognitivi infantili diventare schemi adulti responsabili della depressione ? Per rispondere a questa domanda abbiamo tradotto il Schmidt, Joiner, Young, and Telch's (1995) Early Maladaptive Schema Questionnaire in francese e lo abbiamo adattato ai giovani. Due gruppi di ragazzi e ragazze, dai 12 ai 15 anni (N=252), uno con disturbi depressivi, l'altro senza disturbi, hanno risposto al questionario. I risultati forniscono una migliore comprensione della struttura degli schemi depressivi. In una prospettiva clinica, sottolineiamo la possibilità di utilizzare questo strumento per identificare individualmente o collettivamente gli schemi anormalmente attivi nei bambini.

Parole chiave: Depressione, Bambini, Schémi, Schemi precoci disadatti

Abstract: How can children's schemas evolve into adult schemas that are responsible for depression? To answer this question, we translated Schmidt, Joiner, Young, and Telch's (1995) Early Maladaptive Schema Questionnaire into French and adapted it to children. We administered the questionnaire to two groups of children in the sixth- to ninth-grades (N = 252), one group containing children suffering from depression and the other containing children with no psychiatric disorders. The results provided insight into the structure of depression schemas. In a clinical perspective, we stress the possibility of using this tool to individually or collectively detect "normal" from "abnormal" schemas in children.

Keywords. Depression, Children, Schemas, Early maladaptive schemas

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INTRODUCTION

Schemas, Early maladaptive Schemas (EMS) and mental disorder

The concept of "schema" was introduced into the field of cognitive psychopathology by Beck (1974). The term schema is used to refer to a way of mentally representing knowledge. Schemas are described as mental structures which are responsible for cognitive events and whose product can be detected in the discourse of each one of us. Its task is the organization of knowledge at different levels of abstraction schemata are used (the plural form of schema) to organize information to aid our understanding, remembering, and figuring out what to do Stemberg (2006). Schemas are mental representations that serve as models of aspects of the world, the self and others (Rusinek, 2006). Consequently, the existence of schemas obviates the need to mentally reinvent the wheel with each new experience by providing a blueprint against which that experience can be fitted Dalglish (2004). At a clinical level, it is commonly said that a patient's schemas can be inferred from the structure of his/her symptoms. The importance of cognitive schemas in the development of later psychopathology is a major underlying tenet of the schema theory (Young & al., 2003). Schema-based theories highlight two major explanatory principles in psychopathology. First, new information or experiences that are significantly inconsistent with schemas are disruptive. Second, the current and past sense of reality is organized in a schema-consistent way. These processes can become maladaptive when there is a systematic bias: a dysfunctional schema will produce a disabling effect on the psychological processing (Hautekeete & al., 2006). The way patients approach certain themes, and the importance those themes take on in their discourse, are keys to understanding and describing the cognitive schemas underlying their disorder. It is considered here that a patient's discourse revolves around general themes which are themselves the themes of schemas. According to Horowitz (Horowitz, 1994), a schema is a collection of associated mental representations that operate as a unit. In this view, the themes

a patient brings up are the expression of his/her pathological structure, i.e., the expression of both the processes triggered by that structure and the processes that govern it.

Beck and Emery (1985) described the content of anxiety schemas by noting, for example, that rejection, abandonment, and loss of control over one's environment are common themes in the discourse of anxious persons. The constructs of failure, loss, and inadequacy have been proposed as characteristic of depression (Sezgal, 1988). Early maladaptive schemas have been associated with depressive symptoms such as defectiveness/shame (Harris e Curtin, 2002; Petrocelli & al., 2001a; Shan & Waller, 2000) or abandonment (Stopa & al., 2001; Glaser & al., 2002; Welburn & al., 2002). More recently, Calvete and al. (2005) show that defectiveness/shame, failure, and self-sacrifice were positively associated with depression scores.

EMS in children

The purpose of an EMS is to replicate childhood experiences (notably 'toxic' ones) in an attempt to put things right on a psychological level by producing a different outcome from the one experienced in childhood. The mechanism of "re-enactment" can be seen as a psychological "self-healing process", which aims to heal the underlying EMS (Young & al., 2003). When an EMS becomes rigid and extreme, the individual goes on perpetually re-enacting the schema. Studying discourse themes is therefore a means of accessing the content of the memory structures underlying a disorder. Regarding children, in a study by Messer and Beidel (1994), children suffering from an anxiety disorder tended to say they felt incompetent and inflexible, and that their family did not promote their independence. Leung and Poon (2001) noted anxiety-specific themes in children such as the lack of self-confidence or the idea of impending catastrophe, themes which seemed to differentiate this disorder from depression. Furthermore, depressed youth rate more negative words as self-descriptive

(Timbremont & Braet, 2004) and reveal significantly fewer positive autobiographical memories (Drummond & al., 2006).

Moreover, patients never confine their talk to a single theme. Thus depression is view as a combination of many schemas whose expression is maladaptive and which can be detected quite precisely by looking at what general themes they involve. Beck (1967) defined cognitive vulnerability as the presence of maladaptive self-schema reflecting themes of helplessness and unlovability that become activated by negative life events or negative moods. Cognitive factors interact with environmental stressors increase risk for emotional disorders. Indeed, stressful life experiences predict depression among children and adolescents (Grant et al., 2004). In line with this idea, Hedlund and Rude (1995) contended that children have latent schemas which are responsible for organizing world knowledge and for building memory content. One such latent schema is the depression schema. Relationships were found between the schemas and experiences of parental neglect and childhood adversity (Lumley & Harkness, 2007; Muris, 2006; Beck, 1983), for example, suggested that a depression schema may be rooted in the early loss of a parent. Kovacs and Beck (1985) spoke of the possibility of a child imitating a parent who him/herself is depressed.

Taking this approach, one can study depression schemas and their development by examining the themes that stand out in a patient's discourse, whether a child or an adult. A variety of methods are possible, including observation, analysis of the talk of family members, clinical interviews, and evaluation by means of questionnaires. Schmidt, Joiner, Young, and Telch (1995) proposed several questionnaires for this purpose, based on Young's (1990) theoretical view (itself derived from Beck (Beck, 1974; Beck & Emery, 1985; Beck & al., 1974; Beck & Freeman, 1990). Young (1990; Young & Klosko, 1993) hypothesized that a child's first schemas develop very early in life, through interaction with the environment and

with persons occupying that environment. Early schemas are considered necessary to the child's development because they enable him/her face the world in the best possible way. However, interactions with "protective figures" may cause the child to acquire early maladaptive schemas which lead to the onset and development of a disorder. These schemas are subject to self-reinforcement processes mediated by the selective processing of congruent information.

EMS assessment

To detect early maladaptive schemas, Schmidt et al. (1995) designed tools based on interview data from patients undergoing psychotherapy for a personality disorder. In view of establishing a hierarchy, they defined six major classes of schemas, largely based on the needs expressed by children during development:

- *Instability and disconnection.* The themes specific to this schema class pertain essentially to a lack of affection, distrust of others, and certainty that others are always taking advantage of you, etc.
- *Impaired autonomy.* This class includes themes dealing with functional dependency on others, vulnerability to disease and danger, etc.
- *Undesirability.* The schemas in this class cover social rejection and failure, non-involvement, etc.
- *Restricted self-expression.* This generic term includes schemas relating to emotional inhibition, embarrassment in front of others, etc.
- *Restricted gratification.* The themes described here include exaggeration of one's own output but also exaggerated expectations with respect to others, an acute feeling of self-sacrifice, etc.
- *Impaired limits.* The schemas in this class refer to inadequate self-control, poor control over one's reactions, etc.

For experimental research purposes, Schmidt et al. (1995) devised a questionnaire containing 205 items pertaining to 16 predefined schemas. Based on a psychometric analysis of the questionnaire responses of freshman psychology students, which pointed out 13 clearly-identifiable early maladaptive schemas, the authors reduced the questionnaire to 13 schemas and 160 items. Since then, a number of investigators have used various questionnaires derived from this theory to relate different types of disorders to early maladaptive schemas (Waller & al., 1993; Petrocelli & al., 2001b).

Study Aims and Hypothesis

In view of using Schmidt et al. [28] tool to describe the structure of disorders like depression and anxiety, we translated it and adapted it to the French adult population (Rusinek & Hautekeete, 2000). An obstacle to our approach quickly became apparent, however: studying pathological structures using a questionnaire geared to adults is inconsistent with Young's view and with the idea that schemas are formed during childhood. So our next step was to create and validate a questionnaire for children: the Inventory of Early Child Schemas (Rusinek, 1999; Rusinek & Hautekeete, 2000). The present paper aims to report (i) the results of a study conducted among children with Child Early Maladaptive schemas Inventory and (ii) to compare EMS in depressed children from EMS in non-depressed We hypothesize that Depressed children EMS scores would be higher than Non-Depressed Children EMS.

METHOD

Participants

Participants in this study were 252 children in two groups. The first group, the depressed children group, comprises 126 depressed children. These children fall into four groups on the basis of their grade in school (see Table 1). None of them repeated a school year or was in grade-skipping. These children are treated for depression (without other associated disorders) in various French institutions designed to take care of Children health (hospital, private offices, etc.). Depression screening was brought by health professionals in these institutions. All of the children were administered the French version of the Child Depression Inventory or C.D.I. (Kovac & Beck, 1985; Kovac, 1985) and obtained a score above 20.

The second group, The Non depressed Children group, comprises 126 non-depressed children. They were carefully matched to the depressed subjects on both gender and age. None were repeated a school year or was in grade-skipping either. They were tested in school on the C.D.I. to make sure they showed no signs of depression. All obtained scores below 6 on this scale.

Insert Table 1 here

Measures

CDI

The French version of the Child Depression Inventory or C.D.I. (Kovac & Beck, 1985; Kovac, 1985) was used to assess depression symptoms.

Child Early Maladaptive Schemas Inventory

the Child Early Maladaptive Schemas Inventory (Rusinek, 1999; Rusinek & Hautekeete, 2000) is a French tool designed to assess EMS among children, build on the basis of French version of Schmidt et al.'s (Schmidt & al., 1995) adult EMS inventory. To construct this tool, we asked seven psychologists to look at the semantic content of each schema in the adult questionnaire and to write two statements for each schema. As suggested by Young and Klosko (1993), the number of items in the child questionnaire was limited to two per schema to avoid lengthy testing times. The judge method was used to make sure the statements proposed by the psychologists pertained semantically to the corresponding schemas. Principal component analyses showed that all 13 schemas loaded on the first factor, which accounted for 83.2% of the variance (Rusinek, 1999; Rusinek & Hautekeete, 2000). The internal consistency (between items 1 and 2 of the same schema) was also good ($r_{305} = .713$, $p < .0001$).

The 26 questionnaire items are sentences for which children state their extent of agreement on a three-point scale ("hardly ever", "sometimes", "often"). A "hardly ever" response means that the schema is not present or active in that child. An "often" response is interpreted as indicating the presence and potential activity of the schema. The semantic content of the 13 schemas and the corresponding items are presented in Table 2.

Insert Table 2 here

RESULTS

Analyses of variance on the subjects' mean responses (see Table 3) yielded the following main effects and interactions between the factors examined in this study.

Insert Table 3 here

There was a significant difference between the two subject groups, irrespective of gender or grade in school, for all schemas except *Unrelenting Standards* ($F_{1-236} = 0.524, p = .4699$) and *Enmeshment* ($F_{1-236} = 0.088, p = .7668$).

Gender had a main effect on three schemas: *Incompetence* ($F_{1-236} = 4.175, p = .0421$; $m_{\text{girls}} = 1.936, m_{\text{boys}} = 1.833$), *Abandonment* ($F_{1-236} = 9.530, p = .0023$; $m_{\text{girls}} = 1.803, m_{\text{boys}} = 1.603$), and *Vulnerability* ($F_{1-236} = 10.971, p = .0011$; $m_{\text{girls}} = 1.678, m_{\text{boys}} = 1.492$). Although without having a main effect ($F_{1-236} = 1.355, p = .2455$), gender interacted with school grade ($F_{3-236} = 5.663, p = .0009$) for the *Dependency* schema: girls always had a higher mean than boys. The boy-girl difference was significant for seventh graders (difference = 0.326; $t_{78} = 2.434, p = .0172$) and eighth graders (difference = 0.32; $t_{63} = 2.578, p = .0123$).

We saw above that school grade interacted with gender on the *Dependency* schema. Only one simple effect was found, for *Vulnerability* ($F_{3-236} = 4.561, p = .0040$), due to the large gap between the ninth-grade mean ($m = 1.357$) and the eighth-grade mean ($m = 1.720$), with sixth ($m = 1.650$) and seventh ($m = 1.606$) graders falling in between. For this schema, a grade-by-gender interaction was also noted ($F_{3-236} = 5.080, p = .0020$) and can be explained by the significant difference ($t_{48} = 4.463, p < .0001$) between sixth-grade girls ($m = 2$) and

boys ($m = 1.271$), which did not show up in seventh ($t_{78} = 0.163$, $p = .8707$), eighth ($t_{64} = 1.262$, $p = .2114$), or ninth ($t_{54} = 0.281$, $p = .7801$) graders. *Vulnerability* was the only schema where there was a significant interaction between all factors ($F_{3-236} = 6.012$, $p = .0006$).

DISCUSSION

Overall, while 12 of the 13 schemas were more active in depressed children than in controls, no notable evolution with school grade was observed. This is quite surprising, because a similar study we conducted on fifth- to ninth-grade children suffering from trait anxiety or non-trait anxiety (Rusinek, 2003) indicated fewer schema differences between the groups of children but group-specific evolutions with age. For the children with low trait anxiety, the activity level remained constant or decreased for all schemas. By contrast, the children with high trait anxiety exhibited a decrease in activity for *Mistrust* and *Emotional Inhibition* only, along with an increase for *Insufficient Self-Control*. Our conclusion was that the difference between the schema development patterns of children with high and low trait anxiety is due not only to an increase in the influence of certain schemas in the more anxious children, but especially to a drop in the impact of numerous schemas in the less anxious ones. And we think that trait anxiety is not due solely to the fact that children become anxious as they develop, but above all, to the fact that they become non-anxious. This is in line with the long-standing idea in clinical psychology of "normal" anxiety during development, which later disappears (Bowlby, 1973; Burlingham & Freud, 1944).

However, the populations in these two studies are not strictly comparable. It could also be that the depression schema structure was fixed in the depressed children tested here. Different

phenomena indeed seem to be implicated in child anxiety and child depression. A preliminary conclusion regarding child depression that we can draw from the present study is that depression schemas seem to be well in place by the sixth grade. This idea was supported here not only by the substantial differences between the two groups of subjects, but also by the lack of any schema evolution in depressed and non-depressed children alike. Another conclusion we can draw here is that measures of early maladaptive schemas in children can be related to measures of depression, as already noted for anxiety in adults but not necessarily in children (Rusinek, 1999, 2003). The anxiety-linked schema structures of children may not be as stable as those of adults. A study on children with anxiety disorders would provide further insight into this issue. If as Young proposed (1990; Young & Klosko, 1993), the development and organization of schemas take place during childhood, then in the case of the schemas responsible for depression, the process begins very early.

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