GRAPHIC CREATIVITY AND FOCUSED ATTENTION IN ABUSED CHILDREN

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ABSTRACT

Child abuse has a highly negative impact on growth, nonetheless, recent investigations in resilience point at the fact that some individuals can overcome extremely adverse situations. One relevant variable regarding resilience is creativity. At the same time, attention controls and guides the processes that lead to creative productions. The objectives were: to compare focused attention and graphic creativity in abused and non-abused children and to analyze the relationship between focused attention and the creativity variables. We evaluated 61 children of both sexes, between 7 and 12 years old, with and without family abuse records. The instruments were the CARAS Test (Thurstone & Yela, 1997), and the Graphic Creativity Test (Marín-Ibáñez, 1995). We found some important differences regarding creativity favoring children with no abuse indicators. No significant differences were found regarding attention, though abused children made more mistakes than non-abused ones.

Key words: Child abuse, Resilience, Graphic creativity, Focused attention

Introduction

Child abuse (MI) is a phenomenon that arises with the man, so it is as old as humanity. In its approach, as a universal and social problem, a variety of biological, psychological and social factors are involved (Santana-Tavira, Sanchez - Ahedo & Herrera-Basto, 1998). With regard to its consequences, these are widely varied and greatly affect children, then adults, who then demonstrate difficulties in almost all evolutionary dimensions (Cichetti & Lynch, 1993; Cichetti & Rogosch, 1997; Lessinger-Borges, Haag-Kristensen & Dalbosco - Dell’Aglio, 2006). Despite this, since long ago, mankind has observed that some humans manage to overcome the severely adverse conditions and can even transform them into an advantage or stimulus for growth and overcoming. This approach, which has evolved in recent years, has shown that although the risk determines severe pathologies in many individuals, there are other numerous cases where they develop in the expected form for its evolutionary stage (Munist, Santos & Kotliarenco, 1998). This outline gave rise to the emergence of another approach to the issues of risk, which is based on the study of individual resources and the environment. The study of resilience is part of that perspective (Melillo & Suarez-Ojeda, 2001; Melillo, Suarez-Ojeda & Rodriguez, 2004) and it should be clarified that he describes the
existence of factors that influence by making the risk linked forces not acting linearly determining permanent damage, but mitigating its negative effects. In the field of child mistreatment the approach is extremely rewarding, mainly because it is a vision that does not oppose the risk model but complements it and enriches it (Munist et al., 1998). In addition it is framed in positive or healthy psychology which proposes to study human behaviors not in terms of deficits or symptoms but from a positive outlook perspective focus (Keyes, Shmotkin & Ryff, 2002).

A highlight is that resilience is linked to variables of a cognitive nature (Amar, Kotliarenco & Abello, 2003; Cichetti, 2001; Cichetti, Rogosch & Lynch, 1993; Flores, Cichetti & Rogosch 2005) and the most relevant include the variables of creativity. Cyrulnik (2003) States that creativity is a resiliency factor since through creative, artistic and scientific activities, they are symbolized through creativity situations allowing you to confront them and overcome them. It also becomes a guide to adapt to the environment, which considers it necessary also in the healthy settings. Thus, creativity is described as the ability to create order, beauty and purpose from the chaos and disorder, pointing out that in children who have suffered situations of risk, it is expressed in the creation and in the games, which are a way to reverse the loneliness, the fear, the rage and despair. In that vein, Wolin and Wolin (1993) postulated as pillars of the process of resilience a number of aspects which include creativity as an important factor.

Torrance (1977) described creativity as the process of being sensitive to problems, deficiencies, the gaps in knowledge, overlooked elements and the lack of harmony. It involves gathering valid information, define the difficulties and identify the invalid element, find solutions, make assumptions or formulate hypotheses about the deficiencies, examine and verify such hypotheses, modify them, refine them and finally communicating the results. For McKinnon (1977) creativity requires at least three conditions: that a new response is given or at least a less frequent one; that it is adapted to reality and/or modifies it and finally that there is a deepening of the original idea. The author explains that a creative person is one that can solve a problem in an original way, whereby the creative problem solving is considered a fundamental ability to face adversity. This concept has also been associated to the alternative problem solving generation (Morelato, 2009). Also, Fuentes and Torbay (2004) point to creativity as one of the inter-psychic factors of resilience and propose the exercise of the same both in people who undergo adverse situations as in those that do not present situations of misfortune, as a key aspect to adapt to any context and for the construction or reconstruction of aspects of one’s identity.

Guilford (1950) classical studies highlight that fluidity, flexibility and originality are components of the needed divergent thinking for creative production. Fluency is defined as the speed to generate large numbers of ideas, flexibility as the ability to solve a problem from a new perspective and originality is the ability to generate new and different ideas. On the other hand, Marin-Ibáñez (1995) designates these indicators as the most important and used by most of the authors in the diagnosis of creativity. At the same time explains that there are two fundamental dimensions to evaluate it: space character and verbal character tests. Space type tests include the graphic evidence, which are very simple and it is one of the channels of expression most common in children, in addition to being a task that is appealing and generates motivation. The fluidity, flexibility and originality are components that are present in each of the phases of the creative process: partnership, integration, development and communication of the innovative fact (Escobar & Gomez-Gonzalez, 2006).

All activities of our daily lives have something in common, they imply of one form or another to the awareness system among other cognitive systems, but it is not the same kind of attention that is acting in each of the activities. Fuentes and García-Sevilla (2008) conceive the attention as a neuro-cognitive system responsible for processing control, composed of a series of neural circuitry with specific functions. For these authors the attention is in the activation
of the directly involved mechanism and the functioning of the operations of selection, distribution and maintenance of attentional activity (Carrada, 2011).

Creativity is associated with the temporal-parietal occipital areas and with the prefrontal cortex, seat of the executive functions, including attention (Chavez, Graff-Guerrero, García-Reyna, Vaugier & Cruz-Fuentes, 2004). In the process of creative production, attention is involved regulating and managing the processes responsible for developing and organizing information, activating them or inhibiting them. In this regard, studies on creativity and its relationship with the attention give this a contradictory role. It also happens that many of the investigations that have analyzed the relationship between creativity and other factors, especially cognitive, highlight discrepancies in the results (Garaigordobil & Torres, 1996). However, many studies have linked the attentional amplitude with creative performance (Schmajuk, Aziz & Bates, 2009). Martindale (1999) found that highly creative individuals often diffuse attention or, in other words, that the less creative people by fixing their attention, too much have more difficulties to think of more original things. The author explains that the focused attention increases the likelihood that strong partnerships are accessible at the same time, which causes a decrease in the probability that remote associations appear. Out of focus attention, however, increases the likelihood that remote associations are accessible. In this line, current studies examine the relationship between the not selectivity of information or attentional amplitude and functional-dysfunctional impulsivity as forms of creative information and productivity management, looking for links between the two (Martinez-Zaragoza, 2010a; Martinez-Zaragoza, 2010b). The results support the hypothesis that creative individuals are less selective in the choice of information, as well as using better than most, its disinhibition mechanisms (impulsivity) to achieve a maximization of the divergent production, which then will be able to be transformed into creative products. This feature allows them to generate more ideas (cognitive disinhibition) and therefore makes them individuals with superior divergent production.

On the other hand it is known that children who have suffered child abuse situations show often disorders as a result of the same, which include the presence of attentional disorders, associated or not to hyperactivity (Martinez-Roig & De Paul-Ochotorena, 1993; Casado, Diaz & Martínez, 1997; Arruabarrena & De Paul, 2001; Ruiz-Ceron & Gallardo-Cruz, 2002; Veloso, Rodriguez & Medina, 2009). In general, it is noteworthy that the scientific literature related to the consequences of abuse, indicates that children have a high risk of generating psychopathology and behavioral problems throughout his life, since the effects of the abuse go to the detriment of biological, cognitive, social and emotional development. If one takes into account the different classifications of maltreatment (physical, psychological, neglect or abandonment and sexual abuse, among the most used), some research suggests that the combination of different types of abuse predicted higher results in development and not a form of abuse in the singular form (Litrownik et al., 2005). By the above, in this work we do not focus on a particular typology of abuse but in the presence of child abuse indicators in general. Based on the above it is proposed to perform a pilot study that inquires the existing relationship between creativity and attentional processes in a clinical sample of children who have been victims of abuse situations. This idea tries to bring us closer in the first instance to think assumptions about the relationship between both constructs in children who have been victims of violence and later aims to deepen studies on ways to enhance resources.

Objectives

1. To compare the focused attention and graphic creativity in children with history of child abuse and children without a history of abuse.
2. Analyze in both groups the relationship between focused attention and the evaluated variables of creativity: fluidity, flexibility and originality.

Method

The type of study was descriptive - comparative. The design was non-experimental - transactional, considering as the unit of analysis a group of children from 7 to 12 years old, with and without a history of familial abuse.

Participants

It was worked with an occasional and intentional not probabilistic sample comprised of 61 children between 7
and 12 years old (42.6% female and 57.4% males) of Gran Mendoza -Argentina. The average age of the total sample was of 8.70 (DE = 1.73). Of this group, 31 children presented indicators of child abuse and 30 did not show this problem at the time of the evaluation. This last group was evaluated in school. Given these characteristics, this study is considered to be of a pilot type, therefore the results of this single study are limited to the cases studied and they could not be generalized to the population.

Child victims of mistreatment were evaluated in the scope of a hospital context. The participants were to the service of the Provincial Program of Prevention and Care for Child Abuse¹ (Law 6551) of the province of Mendoza and presented history of combined type child maltreatment (physical, psychological and neglect-abandonment) and a medium degree of severity. All these cases were in a situation of protection at the time of the evaluation, i.e. they were in health monitoring and out of a situation of imminent danger. In addition, the chronicity of the cases was of duration of less than two years. Cases were selected for the derivation of the professionals in charge and also following the criteria Arruabarrena and Paul (2001) and Barnet, Manly and Cicchetti (1993) with adaptations of Morelato (2009). The socioeconomic-educational level was medium-low in both samples of children.

**Instruments**

- **Evaluation of diagnostic variables.** The classification proposed by Arruabarrena and Paul (2001), was used to evaluate the type and quantity of indicators of child abuse based on three kinds of indicators: Indicators of Physical Abuse (physical and knowledge); Indicators of Emotional Abuse and Indicators of Neglect and/or abandonment. The System of Child Maltreatment Classification from Barnet et al. (1993) was used to assess the severity in addition to the criterion of expert judges. The severity was classified in a range from 1 to 5, the highest score corresponding to the criterion of greater severity. Finally, chronicity was classified into three levels based on the approximate duration of the abuse, according to the time of knowledge of the existence of some form of violence in the family. The levels are expressed in the duration of months of abuse: Level 1 (approximately 12 months duration); Level 2 (18 months duration); Level 3 (24 months duration or more).

- **Test of Differences Perception – CARAS.** To evaluate the focused attention the test of Perception of differences was used-CARAS (Thurstone & Yela, 1997). This instrument allows to measure the ability to perceive, quickly and correctly, similarities and differences, and partially ordered stimulating patterns. Its origin dates from Thurstone’s (1941) studies on the structure factor of intelligence and then Yela (1985) makes the Spanish adaptation. Test is applicable from 6 years of age, has a duration of three minutes and requires very little cultural training to understand the instructions given that due to its characteristics it is free of cultural influence. Is made up of 60 graphic elements, each consisting of three schematic drawings of faces with the mouth, eyes, eyebrows and hair represented with basic pieces; a group of three faces, two faces are the same and the task is to determine which is the different one and cross it.

- **Test of Graphic Creativity.** The test of graphic creativity of Marin-Ibáñez (1995) was used to assess the creativity. This technique allows you to explore the creativity from a graphic proof that primarily explores three indicators: originality, mental flexibility and fluidity. The test consists of 7 different figures which are repeated five times in each row, 35 total stimulus. Children should plot all objects which may be or imagine from the figures of the sheet, i.e. by adding lines inside or outside stimuli. In the three first rows these are closed and easily identifiable with everyday objects. The other three rows are open figures in a continuous line, composed of straight lines and curves. In the last row the stimuli are constituted in straight figures split in two. The time for performing the test is variable, between ten and thirty minutes. It is important to point out that the technique has clear construct validity based on the works of

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For the assessment of the fluidity or productivity indicator, a point to each drawing made by the child is awarded, except to those repeated or those who do not have any meaning. The flexibility is obtained based on a classification of eleven categories raised by the author. Thus, a point is awarded for each category used. Therefore the score of flexibility varies between one and eleven points. Finally, to assess the originality indicator, we used a statistical criterion because of the frequency of occurrence of each object in the whole of the total sample. Originality score ranges from 0 to 3 points. The drawings that obtained the most points are those who are more unusual, different from the others and less frequent.

Procedure

For the evaluation of child victims of abuse, in the first place it was sought the endorsement of the Provincial Program of Prevention and Care of Child Abuse, dependent on the Ministry of Health of the province of Mendoza, Argentina, so this entity would authorize the task. After obtaining the authorization, professionals who worked in health teams in order to explain the objectives of work were progressively contacted. It was necessary to coordinate early shifts with professionals so that they could communicate to the child and the family (mother, father, grandparents or guardians) the purpose of the work and its voluntary participation. Subsequently, a semi-conducted interview was made to the professionals in charge of each case, usually psychologists or social workers, and also the medical histories were examined in order to deepen the relevant data related to the diagnosis and evaluate severity - chronicity. Then Interviews with each child were made, in order to create a climate of confidence and to facilitate the administration of the evaluation technique in individual form. Collaborators were not counted on since this type of problem requires prior training as well as some level of capacitation on the subject of abuse. Selected cases of abuse who presented indicators of combined types, that is to say that a form of abuse which was not predominant in a specific way but that all presented a series of indicators of risk of physical, psychological and/or neglect-abandonment typology. It is noteworthy that we don’t focus on a typology of particular abuse especially because rarely does child maltreatment appears with a «pure» type, i.e. that it is often viewed as combined with other types of classifications (Cicchetti & Rogosch, 1997). In addition, these are the cases of higher prevalence in clinical care (Morelato, 2009). On the other hand cases of sexual abuse were not taken cases as it is considered that this is a typology that requires a particularized approach given their characteristics.

In relation to the school group without abuse, first of all, the principal of the school was interviewed to request authorization to carry out the project. Authorization to carry out the work was also requested to the General Directorate of schools dependent on the Government of Mendoza. The informed consent of parents for children’s participation was requested A posteriori, in writing. A series of considerations in relation to the collective decision of the instruments were settled (full grade); good illumination of the workplace, application at a time of day that students were well rested and with a level of normal activation (morning shift: 9-12 hours and afternoon shift of 14 to 17 hours), avoiding moments in which they were fatigued, sleepy, little motivated or after having completed tasks or activities for an extended period. Each establishment assessed students in group form, during one hour of class, on two occasions: in the first it was applied the test CARAS and in the second the Graphic Creativity test. To assess the focalized attention the direct punctuation, index that comes from subtracting errors plus the omissions to the hits obtained scores (PD = [A-(E + O)] following the work of Ison and Anta (2006).

To assess fluency the drawings made were counted with the exception of those which recurred. The flexibility is scored according to the categories used by the author: living beings (men or animals); food (meals, sweets, fruits, etc.); personal items (dresses, jewels, etc.); construction and accessories (buildings, furnishings, decor, etc.); Amusement (games, sports, etc.); symbols and geometrical figures (numbers, letters, flags, coins, triangles, rhombuses, etc.); spiritual objects (religion, art, etc.); technical-scientific (Tools, appliances, radars, etc.); school objects (desks, pencils, erasers); traffic (boats, cars, traffic signs) and nature (Sun, moon, mountain). A statistical approach was used to assess the originality. An analysis of the frequency of plotted objects and their order from wholesale to retail was made. Later an analysis of a statistical based on the

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measurements of position (quartiles) was made. Thus, 25% lower frequency of occurrence objects are assigned three points, the drawn objects on a frequency between 26 and 50% obtained two points and the drawings with a frequency between 51 and 75% were assigned a point. Finally the drawn objects with more than 76% of times (or more) were not assigned scores.

Results

In order to compare the focused attention and graphic creativity in children with a history of child abuse and children without a history of abuse (objective 1), a test of difference of means for independent samples was used.

Table 1 indicates that significant differences were found in the fluidity and flexibility in favor of children without any indicators of abuse. About the attention there was no significant difference in the direct score, however the child victims of abuse committed more errors compared with children without this feature.

Table 1

<table>
<thead>
<tr>
<th></th>
<th>children victims of family abuse n = 31</th>
<th>children without indicators of abuse n = 30</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>FLUIDITY</td>
<td>( \bar{x} = 14.65 \text{ DS (8,06)} )</td>
<td>( \bar{x} = 20.57 \text{ DS (6,99)} )</td>
<td>-3.062**</td>
</tr>
<tr>
<td>FLEXIBILITY</td>
<td>( \bar{x} = 6.23 \text{ DS (1,86)} )</td>
<td>( \bar{x} = 7.80 \text{ DS (1,03)} )</td>
<td>-4.111**</td>
</tr>
<tr>
<td>ORIGINALITY</td>
<td>( \bar{x} = 21.71 \text{ DS (15,19)} )</td>
<td>( \bar{x} = 26.73 \text{ DS (15,38)} )</td>
<td>-1.283</td>
</tr>
<tr>
<td>HITS</td>
<td>( \bar{x} = 19.26 \text{ DS (9,70)} )</td>
<td>( \bar{x} = 21.13 \text{ DS (7,72)} )</td>
<td>-0.833</td>
</tr>
<tr>
<td>MISTAKES</td>
<td>( \bar{x} = 2.61 \text{ DS (3,23)} )</td>
<td>( \bar{x} = 1.13 \text{ DS (1,48)} )</td>
<td>2.311*</td>
</tr>
<tr>
<td>OMISSIONS</td>
<td>( \bar{x} = 0.61 \text{ DS (1,20)} )</td>
<td>( \bar{x} = 0.27 \text{ DS (0,83)} )</td>
<td>1.314</td>
</tr>
<tr>
<td>PD FOCUSED ATTENTIONS</td>
<td>( \bar{x} = 16.03 \text{ DS (12,30)} )</td>
<td>( \bar{x} = 19.73 \text{ DS (7,90)} )</td>
<td>-1.402</td>
</tr>
</tbody>
</table>

Note: In the table the reactive significant results are pointed.

*p < 0.05

**p < 0.001

Separately, in relation to the second objective, tables 2 and 3 show correlations between variables of graphic creativity and focused attention. In both groups positive correlations were found between the fluidity, flexibility and originality among them; and between successes and direct scores (PD). On the other hand, it is remarkable that we have found positive correlations between some of the variables associated with focused attention and creativity only in the Group of children victims of abuse.

These variables were: PD with fluidity, flexibility and originality; and these same variables with the variable hits. Also there are negative correlations between hits and errors and PD and errors, in the previously mentioned group.
Table 2

Pearson’s correlations between variables of graphic creativity and the variables of the focused attention on the Group of children victims of family abuse

<table>
<thead>
<tr>
<th>Pearson’s Correlation</th>
<th>Fluidity Value</th>
<th>Flexibility Value</th>
<th>Originality Value</th>
<th>Hits Value</th>
<th>Mistakes Value</th>
<th>Omissions Value</th>
<th>PD Focused Attentions Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FLUIDITY</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td>.389*</td>
<td>-.008</td>
<td>.447*</td>
</tr>
<tr>
<td>FLEXIBILITY</td>
<td></td>
<td>.581**</td>
<td>.878**</td>
<td>.287</td>
<td>.166</td>
<td>-.182</td>
<td>.268</td>
</tr>
<tr>
<td>ORIGINALITY</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.103</td>
<td>.290</td>
<td>.048</td>
</tr>
<tr>
<td>HITS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.207</td>
<td>.100</td>
<td>207</td>
</tr>
<tr>
<td>MISTAKES</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.054</td>
<td>.979*</td>
</tr>
<tr>
<td>OMISSIONS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-1.15</td>
</tr>
<tr>
<td>PD FOCUSED ATTENTIONS</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

Note: In the table the reactive significant results are pointed.
*p < 0.05
**p < 0.001

Table 3

Pearson’s correlations between variables of graphic creativity and the variables of the focused attention on the Group of children without indicators of abuse

<table>
<thead>
<tr>
<th>Pearson’s Correlation</th>
<th>Fluidity Value</th>
<th>Flexibility Value</th>
<th>Originality Value</th>
<th>Hits Value</th>
<th>Mistakes Value</th>
<th>Omissions Value</th>
<th>PD Focused Attentions Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FLUIDITY</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td>.389*</td>
<td>-.008</td>
<td>.447*</td>
</tr>
<tr>
<td>FLEXIBILITY</td>
<td></td>
<td>.581**</td>
<td>.878**</td>
<td>.287</td>
<td>.166</td>
<td>-.182</td>
<td>.268</td>
</tr>
<tr>
<td>ORIGINALITY</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.103</td>
<td>.290</td>
<td>.048</td>
</tr>
<tr>
<td>HITS</td>
<td></td>
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<td></td>
<td>.207</td>
<td>.100</td>
<td>207</td>
</tr>
<tr>
<td>MISTAKES</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.054</td>
<td>.979*</td>
</tr>
<tr>
<td>OMISSIONS</td>
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<td>-1.15</td>
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<tr>
<td>PD FOCUSED ATTENTIONS</td>
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<td>1</td>
</tr>
</tbody>
</table>

Note: In the table the reactive significant results are pointed.
*p < 0.05
**p < 0.001
Discussion

Regarding the results expressed in Table 1 we can point that children without any indicators of abuse had significantly better scores in fluidity and flexibility than children in the risk group. This finding is possibly linked to cognitive difficulties observed in children suffering from family violence (Cichetti & Lynch, 1993; Cichetti & Rogosch, 1997; Lessinger-Borges et al., 2006; Dubowitzs, Pitts, Litrownik, Cox, Runyan & Black, 2005), since in general abused children have a cognitive development that presents difficulties in relation to children who have not suffered violence (Cichetti et al., 1993). In this line Mesa-Gresa and Moya-Albiol (2011) from a neuro-cognitive perspective pose that to the individual differences and different environmental, social and genetic factors involved in the consequences of maltreatment are added neurobiological changes. These changes are functionally associated with various psychopathologies and manifest themselves in high levels of psychosocial stress, behavioral difficulties, social problems and cognitive sequels. It is therefore expected that abused children have a creative development less productive and flexible in comparison with non-abused children. The same reason may also explain the fact that child victims of abuse have committed more errors than those of the control group, which designates major difficulties in discriminating between stimuli.

On the other hand, it was observed that no significant difference in the originality variable among the compared groups of children. About this some studies point to the need to implement, in all educational contexts, learning strategies aimed at the development of creativity, appearance that helps not only to face adversity, but also as a way to promote personal and social development in childhood (Fuentes & Tobay, 2004). Therefore we can consider in a preliminary way that originality, understood as the capacity to think different ideas, new and rare, is little encouraged in educational and family areas in general and tends not to develop in a meaningful way if it’s not stimulated. This would go beyond a child that has experienced or not strong emotional impacts. Regarding the attention there was no significant differences in the direct score between the compared groups, i.e. General focused attention tends to be preserved. Consequently it is likely that the Group of child victims of domestic violence do not present a basic attentional performance neuro-cognitive dysfunction. Although the attention focused from its regulatory function of cognitive processes, is affected commonly as a consequence of the problem of abuse, in this case the difficulty only observed in the presence of significant differences in errors. The presence of a function of preserved attentional discrimination is probably due to three elements: an evolutionary aspect related to the age of the children at the moment of experiencing risk situations, the nature of the risk and the permanence of it. If one takes into account the age of the children evaluated, we observe that these were experiences of violence in Middle childhood.

Also they presented risk indicators of a severity and mean chronicity (less than two years duration) and at the time of the assessment all were in health monitoring and in protection situations. Therefore, even if the abuse is always serious and damaging for development, it may be less disturbing the fact that children have been in Middle childhood at the moment of experiencing the most dangerous situations since this period has cognitive and emotional resources more consolidated than little children. It is remarkable that when abuse occurs in a family where the children are very small, basic affective links are difficult to establish like the attachment and therefore the aftermaths lead to serious consequences and the development of psychopathology (Shaffer, 2000). In addition it is ample knowledge that the age at which the abuse occurs is a fundamental element for the analysis of its subsequent correlations, as these are early experiences that predicting greater measure the maladjusted functioning (Litrownik et al., 2005; Manly, 2005).

In Tables 2 and 3 it could be observed, separately, the existing correlations between creativity variables and focused attention. In both groups positive correlations were found between fluidity, flexibility and originality and among hits and direct score. We also found negative correlations between hits and errors, and among errors and direct score in the Group of children at risk. Both aspects are expected given that it meets a criteria of internal validity of both techniques.

On the other hand, it is remarkable the presence of significant correlations among the variables of attention and creativity only in children who have suffered abuse situations. This result, like the previous ones, should be
interpreted with caution since it is a preliminary study. However, we can take a chance to think some hypotheses. On the one hand, the fact of no glimpses of association between variables of the focused attention and variables of graphic creativity in children in the control group, goes on the line contributed by Martindale (1999) and Martínez-Zaragoza (2010a). These authors explain that there would be no direct relation between the focused attention and the creativity, but on the contrary, creative individuals tend to be less selective in the selection of information.

In disagreement with the above, in the case of children victims of violence this situation is reversed and significant associations between the three variables of creativity and focused attention are found. There are studies on resilience in children, which argue that abused children manifest a different performance from the non-abused children (Cichetti et al., 1993). Cichetti et al., (1993) and Cicchetti & Rogosch (1997), indicate that scans about how personal resources contribute to competent adaptation, reveal that there are certain characteristics that would exercise a protective function in the group of abused children among which is mentioned the ability to be reflective, persistent, attentive, focused, to think before you act and calm down. This more controlled and rational path to interact and relate, may be needed to adequately adapt to harsh environments. Thus, children who interact with greater control protect themselves from being targeted by incidents of continued abuse. In contrast, the most emotional and energetic children could not adapt successfully to their environments since their styles result in greater attention and reaction from the abusing adults. It should be noted that these features act adaptively in these environments and not in the group of non-abused children, since it has been observed that this operation ceases to be effective when they change the conditions of the home in which they experienced violence situations. A previous work also notes that child victims of abuse have better capabilities to anticipate consequences to the problem situations than children who have not suffered violence, an aspect that seems to be an indicator of a higher State of alert and expectation to the behavioral signals of the environment (Ison & Morelato, 2008). That is why, from our perspective it is held that this alert status is related to the need to discriminate contextual danger signals and act accordingly. Based on the issues raised, we think that evaluated abused children use more actively the attention focused in relation to the solution of problems than children in the control group. It should be remembered that the creativity involves to generate ideas classically, to resolve conflicts from a new perspective and to introduce new and different thoughts (Guilford, 1950; McKinnon, 1977). Therefore, we consider that the association between a good level of attention and creative skills can be understood as a potentiality, provided it’s taken into account the characteristics of the analyzed cases, previously cleared up.

Conclusions

This study attempted to investigate the existing relationship between creativity and attentional processes in a clinical sample of children who have been victims of abuse situations. The results found in comparison between the samples noted, as it is expected, a better creative performance in children who have not experienced situations of abuse. Also in this group (not abused) no associations were found between creativity and attention, coinciding aspect with prior studies which indicate that there is not a direct relationship between these two variables, and even sometimes scattered attention children tend to be more creative. On the other hand, the significant correlation between attention and creativity found in child victims of abuse may be associated with a protective aspect that leads these children to be more attentive to their surroundings from the point of view of cognitive functioning. In this sense, it can be said that protective resources are strengthened to the extent that the attention from the training of executive functions is strengthened. Also if at the same time this is integrated to the promotion of creativity, a fundamentally linked variable to the ability of being flexible, productive and original, new protective resources in the face of adversity can also be developed.

It is noteworthy, as it has already been said in previous works (Morelato, 2011), when it comes to working with high risk problems, a valid alternative as posed by Cichetti et al. (1993), is to work with the strengths which would allow to expand the focus of interventions in high risk communities not only from the clinic, but also a preventive and caring point of view. In the above line, the approach of creativity in children at risk situations represents a valuable and useful alternative to work in communities, particularly in school.
areas. Therefore these results open a space to think the creativity from its relationship with the attentional functions, to facilitating cognitive resources of resilience processes in children at risk. However, it is necessary to clarify that this work expresses only an approach to the study of these issues in a local clinical sample, therefore it highlights the need for further research on more numerous samples for the purposes of clarifying relations among the studied variables.

References


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