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Creativity and Traces of Trauma in Children Wartime Drawings

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Abstract

Semantic differentiation and content analysis accomplished of a collection of children wartime drawings from former Yugoslavia (1991-1995). Slides of 50 untitled anonymous artworks were assessed by a group of lay judges from Hungary (social work students) in using 30 bi-polar Semantic Differential (SD) scales. Independently, content analysis of the drawings accomplished to code the signs and symbols of trauma in the compositions. Factor analysis revealed five latent dimensions of ratings (79.5% total variance explained): F1. "Evaluation", F2. "Originality", F3. "Elaboration", F4. "Activity" F5. "Potency". Significant multiple correlation was found between the semantic factor measures and the frequency counts of trauma indicators in drawings: $R=0.688$, $F(5,43)=7.744$ $p=0$. However, significant partial regression was estimated only for the first (F1) and the third (F3) factor scales. The results suggest that semantic differential is a feasible method for discerning specific aesthetic features in children wartime drawings.

Keywords: Children; War; Drawings; Trauma; Creativity semantic differential

Introduction

Children drawings from the Spanish Civil War (1936-1939) first called the attention of artists and aestheticians to special aesthetic features embodied in these images. The Spanish Welfare Association in New York collected some nine hundred pieces of these artworks and published the book: *They Still Draw Pictures* [1]. Aldous Huxley wrote the Foreword to the first edition of the book in saying: "This is a collection of children drawings; it is also and at the same time a collection of drawings made by little boys and girls who have lived through a modern war. From an aesthetic and psychological point of view, the most startling thing about a collection of this kind is the fact that, when they are left to themselves, most children display astonishing artistic talent. (...) There are combinations of pale pure colors that remind one of the harmonies one meets within the tinted sketches of the eighteenth centuries. In other drawings, the tones are deep, the contrasts violent. Voids and masses are beautifully balanced about the central axis. The bullets from the machine guns of the planes will be made visible by the child artist as interlacing chains of beads, so that a drawing of an air raid becomes not only a poignant scene of slaughter, but also and simultaneously a curious and original pattern of lines and circles." (p. 1-2).

Decades later the authors, Anthony L. Geist and Peter N. Carroll revisited a smaller selection of Spanish children original drawings by adding a few plates from a more recent warfare in Kosovo and published a book with the same title as the original Spanish collection [2]. Robert Coles wrote the followings in Foreword to this volume: "Here then, are some of those artists, young, but no less drawn to pictures than the rest of us who visit museums, look at pictures worked into books or hung on walls. A drawing or a painting is a soul's message eagerly sought by us watchful onlookers. Whether the artist be a grown up or a boy or girls, the point is to demonstrate what has been imagined or, yes, witnessed-in peace or, alas, here in war. The point further, is for us to be shown something by certain boys and girls who become our teachers, thereby we are broadened and deepened responsively in our minds and hearts." (p. 8).

This paper also goes back in time. Back to the recent war in former Yugoslavia (1991-95), which caused hundreds of thousands of children homeless, humiliated and suffering from anxiety, depression and symptoms of posttraumatic stress [3,4]. The memories are saved in unique collections of drawings and literary narratives [5-7]. However, this paper goes beyond sheer documents and clinical data. It meant to highlight a few specific aesthetic dimensions in children wartime visual art. The artworks selected are products of a non-clinical, community-oriented art therapy programs for

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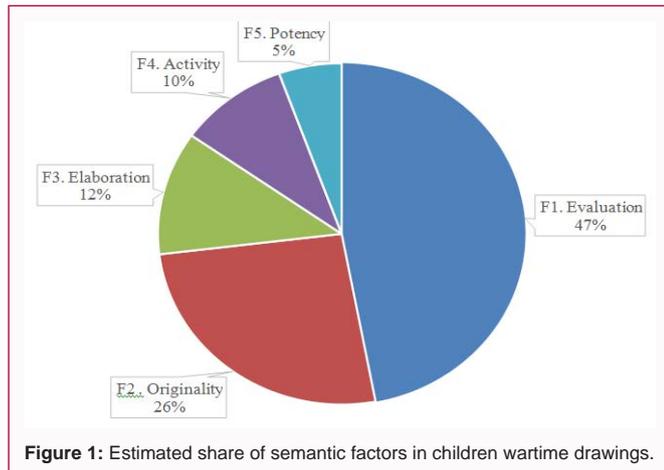


Figure 1: Estimated share of semantic factors in children wartime drawings.

school children and adolescents, called, “Steps to Recovery Program” (1992-95), since descriptions of the program are available in other sources [8-10], let us take only a brief look at its major features and scope.

Background

The Steps to Recovery program was set to a 12-step approach to trauma recovery [11]. It grown out from former experience of the present author with war traumatized children in Croatia (1991/92) and extended with American psychiatrist’s Joel Osler Brande’s theoretical approach to PTSD [12]. The premise was that working through a series distressing emotions and their opposites typically felt in wartime may help children to understand, express and share them in a creative way. The followings twelve thematic workshops were designed with symbolic titles (leads) meant to promote value qualification: W1, Power vs. Powerlessness, W2. Meaning vs. Meaninglessness, W3. Trust vs. Distrust, W4. Good vs. Bad, W5. Resilience vs. Anger, W6. Safety vs. Fear, W7. Innocence vs. Guilt, W8. Joy vs. Pain, W9. Life vs Death, W10. Forgiveness vs. Revenge, W11. Hope vs. Hopelessness, W12. Love vs. Hate. Each workshop was introduced with series of thematically focusing creative activities such as guided visualizations, observing famous artworks, poetry reading, Storytelling. The workshops were organized weekly and lasted 90-120 min/session with a 30 minutes free drawing task at the end of each.

The program was launched in 11 major city libraries (resource centers) and 38 local branches in non-occupied regions of Croatia ‘94. Separate workshops were organized for younger and older children. The start-up (January ‘95) registered N=462 minors, 242 girls and 220 boys (mean age M=11.04, SD=2.27). Nearly two thirds of the participants were residents and the rest displaced or refugees (62% and 38%, respectively). Regarding war exposure, one third of children (32%) lived in regions of intensive military operations.

According to self-reports, the following wartime events were mentioned as the most distressing of all: 1. death of a close other (38%), 2. destruction of home (18%), 3. stay in shelter (5%), 4. threat to own life (5%), 5. leaving home (4%), 6. else (5%). As reported elsewhere (Baráth, 2003), the effectiveness of the program was evaluated by twelve symptoms scales of PTSD administered before and after the program (N=166). of which in nine was found significant decrees in self-ratings (paired sample t-tests $p < .05$): “Powerlessness”, “Meaninglessness”, “Distrust”, “Memory lapses”, “Anger”, “Fear”, “Guilt”, “Mourning” and “Hopelessness”. No substantial change was

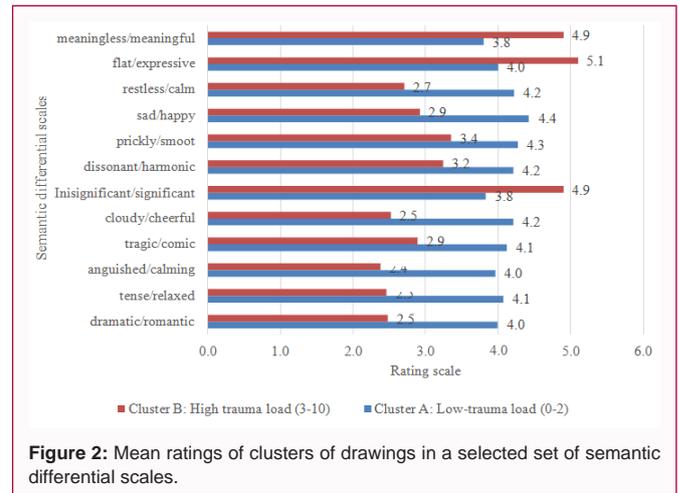


Figure 2: Mean ratings of clusters of drawings in a selected set of semantic differential scales.

registered in the following scales: “Death concern”, Revenge” and “Hate”.

Aim

To explore the dimensions of affective/aesthetic responding of contextually uninvolved observers to a sample of children wartime drawings and estimate the extent to which these dimensions are related to indicators of trauma expressed in these drawings.

Methods

Art material (drawings)

A sample of 50 anonymous wartime drawings was selected from the pool of artworks created by school children (age 6-17) in the series of library-based art therapy workshops (see above). Four artworks were selected to represent each workshop in a balanced way. The country of origin and the background context of the drawings were not revealed to judges.

Judges

Three female social work college students from University of Pécs (Hungary) volunteered to participate in the trial (age 22-23). None of them had formal training in visual arts and had no personal experience with warfare or major trauma of any kind.

Instruments

Digitalized, full-color copies of untitled and anonymous artworks were projected to judges on a large screen in random order. The exposure time was maximum 2 min/slide, long enough to capture the pictorial content, structural organization, meaningfulness and affective impact of the drawings. Judges were provided with blank sheets containing the following bi-polar Osgood-type Semantic Differential (SD) scales for rating: happy/sad, smooth/prickly, rested/restless, moving/unmoved, active/passive, hot/cold, expressive/inexpressive, dynamic/static, charming/demonic, elevating/depressing, cheerful/gloomy, romantic/dramatic, playful/tragic, calming/anguished, ordered/chaotic, significant/insignificant, interesting/boring, complex/simple, original/commonplace, finished/unfinished, skilled/clumsy, meaningful/meaningless, figurative/abstract, spacious/squeezed, open/closed, harmonious/dissonant, elaborated/sketched, light/dark, life full/lifeless.

Content analysis

Independently from students’ ratings, content analysis of each

Table 1: Factors of semantic differentiation in a sample of children wartime drawings (k=50).

SD Scales	Factor Structure Matrix*				
	F1, Evaluation	F2, Originality	F3, Elaboration	F4, Activity	F5, Potency
"depressing/elevating"	,971	,026	-,108	,181	-,156
"anguished/ calming"	,967	-,033	-,080	,203	-,133
"gloomy/cheerful"	,947	-,162	-,084	,019	-,070
"tense/relaxed"	,934	,010	-,019	,180	-,230
"sad/happy"	,919	,010	-,019	,180	-,230
"dramatic/romantic"	,911	-,171	-,213	,062	-,074
"demonic/charming"	,892	-,166	-,086	,237	-,173
"dissonant/harmonious"	,882	-,130	,151	,160	-,162
"restless/rested"	,870	-,279	,005	-,052	-,064
"tragic/comic"	,819	-,020	-,307	,084	-,194
"cold/hot"	,814	-,057	,031	,341	-,371
"" dark/light"	,727	,192	,053	,213	,016
"prickly/smooth"	,605	-,497	-,093	,176	-,002
"boring/interesting"	-,139	,902	,266	,229	-,148
"ordinary/original"	,067	,895	,034	,324	-,311
"simple/complex"	,263	,701	,303	,565	-,394
"figurative/abstract"	,135	-,019	-,828	-,167	-,146
"flat/expressive"	-,288	,401	,788	,409	,042
"chaotic/ordered"	-,029	,097	,765	-,190	,208
"clumsy/skillful"	,102	,681	,717	,175	-,245
"meaningless/meaningful"	-,272	,181	,677	,203	,059
"insignificant/significant"	-,529	,494	,638	,072	-,084
"unfinished/finished"	,160	,016	,586	,408	-,543
"sketched/elaborated"	,495	,244	,519	,325	-,415
"passive/active"	,108	,170	,203	,954	-,069
"unmoved/moving"	,071	,165	,068	,946	,053
"static/dynamic"	,242	,321	,197	,917	-,185
"lifeless/ life full"	,511	,220	,529	,560	-,017
"" squeezed/spacious"	-,243	-,191	,195	-,095	,768
"closed/open"	,103	-,190	,127	,195	,670
Initial Eigenvalues:	11,24	6,21	2,78	2,32,	1,31
Variance Explained (in %)	37,4	20,7	9,3	7,7	4,4
Cumulative %:	37,4	58,2	67,4	75,2	79,5

drawing was accomplished by the present author in coding the following visual elements as indicators of trauma: (1) Military arms & weapons. (2) Symbols of destruction & death, (3) Dangerous animals & beasts, (4) Monsters & fearful masks, (5) Drawing without people & living beings, (6) Blurred human figures, (7) Human faces smashed into another, (8) Missing parts of human body, (9) Enlarged parts of human body, (10) Internal organs drawn outside the body, (11) Mutilated part of human or animal body, (12) Strong contrast colors without shading, (13) Dark or black sky & background, (14) One-sided use of art material, (15) Prickly (zigzag) lines & contours. Statistical analysis: SPSS-25 statistical package was used to estimate the reliability, construct validity of semantic differential ratings and their correlation with frequency counts of trauma indicator in drawings as external criteria.

Results

Inter-rater agreement and scale reliability

Pearson’s (r) correlation coefficients were calculated to estimate pair wise the degree of similarity/discrepancy in judges’ individual ratings across the full series of 50 drawings.

These coefficients varied widely from $r=-0.05$ to $r=0.77$. Higher inter-rater correlation was found in rating scales with simple affective reference. Nevertheless, the average value of inter-rater correlations was estimated positive and statistically significant (Mean $r=0.407$ $SD=0.193$ $df=48$ $p<.05$).

The internal consistency of ratings across the full SD scale was estimated satisfactory (Cronbach’s Alpha= 0.894), although, the split-half method provided somewhat different results. Internal consistency

Table 2: Summary results of multiple regression analysis.

Dependent	Trauma indicators in (0-10)				
Predictors	Semantic differential ratings factor scales (F1-F5)				
Method	Enter all				
Multiple correlation	R = ,688 R ² = ,474 F (5, 43) = 7,744 p = 0				
Coefficients					
Predictors	Unstandardized		Standardized	t	Sig.
	B	Std. Error	Beta		
(Constant)	7.618	2.860	-	2.664	0.011
F1." Evaluation"	-0.133	0.026	-0.576	5.056	0.000
F2. "Originality"	0.012	0.028	0.049	0.426	0.672
F3. "Elaboration"	0.072	0.026	0.313	2.727	0.009
F4. " Activity"	-0.025	0.027	-0.110	0.943	0.351
F5. "Potency"	-0.007	0.026	-0.030	0.263	0.794

for the first part of the scale (15 items) was higher than that for the second part (Alpha1=0.925 vs. Alpha2=0.716), probably due to rather lengthy task in semantic differentiation (redundancy effect).

Factors of semantic differentiation

Principal Component Analysis of the 30x30 correlation matrix of SD ratings resulted with the extraction of 5 factors without initial specification of their expected number. The main results are displayed in Table 1, where rating scales are ranked by the level loadings with extracted factors (variable factor correlations). Next to the table a statistical graph illustrates the share of extracted factors in semantic differentiation (Figure 1).

Where:

F1 Evaluation: global affective responding to the drawings

F2 Originality: sensing novelty in the visual expression

F3 Elaboration: perception of elaborated details

F4 Activity: appreciation of dynamic features, liveliness in lines and figures drawn

F5: Potency: perception of "strength" (vitality) in the composition

The findings are instructive. They confirmed the expectation that the semantic space of children wartime drawings is multidimensional. Next to most robust factor (F1) two factors emerged, both well-known components of creativity: Originality (F2 and Elaboration-(F3).

Further, the extracted factors were found independent from each other (oblique) although the opposite was expected (oblimin factor rotation). Finally, the reduction of raw score data to a smaller number of dimensions was useful to see, which rating scales may serve as a minimal set for pragmatic purposes as viable measures of art objects, in general. The followings may be recommended: F1 depressing/elevating, F2 boring/interesting F3: figurative/abstract, F4: passive/active, F5 squeezed/spacious.

Indicators of trauma

The range of coded trauma indicators in 49 analyzed drawings was wide (0-10), with the mean value M=3.55 (SD 2.31), Median=3 and Mode=3. The following is the list of indicators rank ordered by number of drawings in which they were clearly distinguishable ("k" in brackets):

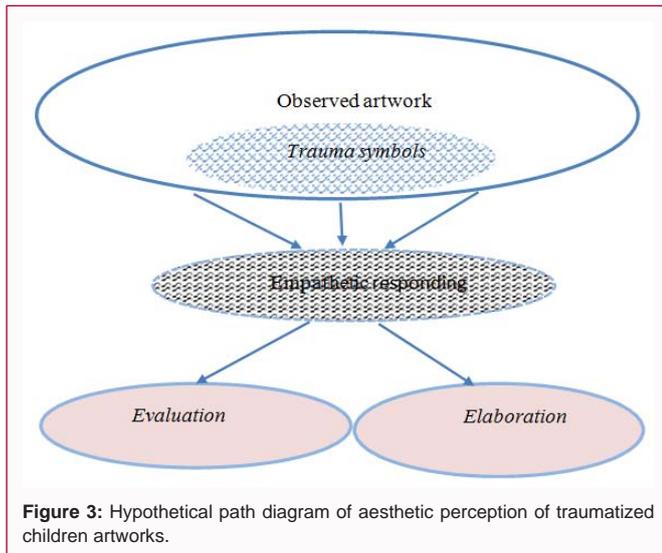
1. Prickly (zigzag) lines & contours (k=30)
2. Dark sky & background (k=19)
3. Strong contrast colors without shading (k=18)
4. Scene without people & living beings (k=18)
5. Dissected parts of human or animal body (k=15)
6. Missing parts of human body (k=13)
7. Fearful monsters & masks (k =13)
8. Enlarged sensory organs (k =12)
9. Symbols of destruction & death (k =12)
10. Schematic or blurred human figures (k =7)
11. One-sided use of drawing material (k =6)
12. Military arms & weapons (k =6)
13. Human faces smashed into another (k =3)
14. Dangerous animals & beasts (k =2)
15. Internal organs outside of body (k =1)

Evidently, the most frequently coded indicators were "prickly" (edgy) lines and contours around figures. Art therapists would interpret such lines as subtle signs of sustained aggression, anger, frustration or trauma resulting from impulsive hand movements. Drawings with symbols of war (e.g. guns, tanks) or scenes of brutal violence were rare.

Discriminant validity of ratings

The frequency distribution of trauma indicators was bi-modal (lower Mode=3 vs. higher Mode=5), which made easy to classify the drawings into two major groups: Cluster A with 28 drawings, called, Low trauma-load (mean count MA=1.89, SD=1.17) and Cluster B with 21 drawings, called, high trauma-load (MB=5.76, SD=1.41). These two clusters were compared across the series of 30 semantic differential scales. The between-group differences were estimated statistically significant in 20 scales (t-test >2.02 df=47 p<0.05), of with the first twelve are listed in the diagram below (Figure 2).

The diagram clearly shows that drawings with high number of trauma indicators (Cluster B) were appreciated as more "meaningful",



“expressive” and “significant”. Further statistical exploration was accomplished with the use of multiple regression analysis, where the factor scales (F1-F5) entered the model as statistical independents, and the frequency count of indicators as statistical dependent (external criterion). The table below summarizes the principal results of this analysis (Table 2).

The estimated level of relationship between the two sets of measures was as high as if were “parallel tests” of the same construct (nearly 50% of shared variance). However, of the factor scales only two reached statistically significant partial regression: F1- “Evaluation” and F3- “Elaboration”: the higher was the load of a drawing with coded indicators of trauma the more likely it elicited depressed feelings, yet at the same time perceived as more elaborated. The diagram below is a theoretical path diagram built upon the assumption that the main mediating psychological factor between the observed drawings and the semantic ratings most likely was the function of empathetic responding as part of personal understanding (Figure 3).

Discussion

“When trauma happens, children draw”, maintains the art therapist Cathy Malchiodi (2008). This is because, she continuous, “art, play and imagination are ways children naturally express the unspeakable and circumvent ‘talk’ that is difficult or temporarily unavailable.” However, more complex is the question who and how “reads” (interprets) these drawings, whether scribbles or discernable compositions? The point is that children artworks, much like those of professional artists, are never if ever “copies” of what they see, but expressions of how they feel about the objects of perception in following certain aesthetic rules specific to age and cultural norms [13-16]. People usually expect that war impacted children would draw “dramatic” pictures with scenes of bold aggression and violence. This may be true for some categories of traumatized children, but not for all. Art therapist Deborah Golub, for instance, before started working with Cambodian adolescent survivors of war also anticipated that their artworks will be a paucity of detail and integration. “Quite the opposite seemed true”, she wrote later, “rich and integrated content in most cases suggested that perhaps children had retained strong ego integrity despite the excruciating content they depicted this may be connected to their earlier life of stability and nurturance by family, community, and tradition” [17].

Several lessons were learned from this study. It demonstrated that the use of semantic differential technique likely makes even art-naïve judges capable to appreciate unknown authors’, in this case war impacted children drawings as aesthetic objects. This enhanced competence certainly is the function of the bipolar rating scales per sec, which implicitly force the observer to step out of the conventional “first impression” verbal judgment and search for alternative frames of interpretation [18-20]. The moderate inter-rater agreement in semantic rating brought into the focus the old issue as whether the aesthetic features of an artwork are “real”, i.e., exist independently of individual observers or culture-specific “nominal” constructs. The question cannot be answered categorically since aesthetic responding is always blended with word usage [21]. It is interesting to note, however, that the results of this study are very similar to those of our original explorations in Croatia during the warfare in which local (Croatian) school teachers rated several thousands of war-impacted children drawings [22]. This would corroborate the thesis about the cross-cultural generality of aesthetic perception. Factor analysis of semantic ratings partially support the traditional thesis about the three- factor theory of semantic space (EPA model), in stressing Evaluation, Potency and Activity as “universals of affective meaning” [23]. Notably, Originality and Elaboration were found as additional dimension to this model, and both are well-known components of creativity, in general [24,25]. Of course, this is not the first study in measuring creativity *via* semantic differential ratings [26], but it is rarely demonstrated in the full context of a multidimensional semantic space.

Content analysis of drawings highlighted a rather wide range of trauma indicators in drawings. However, unlike findings reported by other authors working with different populations of traumatized children [27-29], obvious symbols of aggression and brutal violence were rare in the analyzed sample of drawings. This was likely due to the joint effect of the art therapy program (small group creative activities) and to the calming environmental settings (public libraries). Asking for impulse control in an unobtrusive way.

Finally, the statistical association between the semantic ratings and indicators of trauma calls for explanation. The findings are not surprising since both anecdotal and research evidence suggests a link between adverse life events and creativity [30-33]. One possible explanation would be that the mind’s capacity for symbolic representation after traumatic events tends to increase and balances out impairments in lexical (verbal) representation [34]. At this point we come to the phenomenon of elaboration of an artwork from the side of its creator, on one hand, and its perceiver, on the other. Therapists call attention to the fact that traumatized children likely “overwork” certain details in their drawings for to emphasize their emotional impact. Some would call this tendency: “return to the pain” [35]. Illustrative are the drawings in which subtle symbols of trauma are hidden in otherwise well-integrated, “nice looking” compositions. “In pastoral landscapes”, wrote Deborah Golub while working with adolescent survivors of the Vietnam War, “[elaboration] involved intricate cloud formations, foliage, and water surface. When traumatic memories were produced the enemy usually possessed more detail than the victim. This took the form of additional color, shading, and detail of weapons and paraphernalia” [17]. On the other side, perception of an elaborate art work is stepwise process of meaning formation, which is unthinkable without empathetic responding [36], where the term “empathy” in this context would mean intuitive understanding, or as aestheticians say: “inner dialogue with the piece

of art" [37,38].

By the end, a few critical comments about some short comings of this study. One is the fact that except for information about the global social context, no information was made public on individual authors of targeted artworks, for ethical reasons. Many methodological questions were left open for further (similar) inquiries. One is the number of subjects involved with semantic differentiations and content analysis, which matters the reliability estimates of used instruments. Another is the critic of semantic differential as a research tool, in general, which raises the question of validity and reliability of measures with different samples and methods of assessment. Finally, the role of empathy was taken as hypothetical mediating variable in art perception, in general. Letting aside the fact that "empathy" by itself is a very loose concept, independent empirical measures for its assessment were missing from this study, such as judges' narratives about artworks they actually observed.

Conclusion and Recommendation

Children survivors of war draw pictures, which strike out with several characteristics that impact beyond ordinary sensory experience of casual observers. Appreciation of children artworks after a disaster happened may be helped by using semantic differentiation to discern their sophisticated semantic features, including creativity and traces of trauma. Further research should assess the extent to which joint (interactive) art making with traumatized children may help professional helpers understanding them and their artworks.

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