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## USING OF BIOGEOMETRY ENGINEERING TO OBTAIN ADVANCED WOVEN DESIGNS FOR THE TREATMENT OF DEPRESSED CHILDREN

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### ABSTRACT

We can conclude the aim of the research in solving the problem of creation with textile designers in order to get a new methodology for creation that fulfills the proper needs of the textile. We used the motives of biogeometry and its close relationship with the basics of textile designs and textile construction. Two hundred and fifty different designs were applied to study the negative and positive biogeometrical energies to select the best and effective designs. Designs on paper showed different effect when compared with those weaved. We found that these elements helped depressed children to get effective in the use of medical treatment and decreasing the dose .

**Keywords:** *Biogeometry, Weaving Design, Energy, Depression, Children.*

### INTRODUCTION

Egyptian and the entire world suffer from increasing the depression diseases between the children of age ranged between 8 to 12 years. This research will offer a new technique to treat them by using the motive of depression in biogeometry science in order to make textile designs treated with advanced material based on natural anti depression e.g. lavender. Firstly, a design was selected regardless it is color and direction was chosen on the bases of it is effect on psychological issues especially on depression diseases. 20 Designs were studied with respect to thickness of the each design. Then we started classification for the designs upon to which is giving positive energy or negative energy according to the biogeometrical way of measuring and we chose the best positive 20 designs. These 20 designs were compared with respect to their size, thickness, direction, color, height and distribution for the highest energy effect. The results showed a great effect of the biogeometrical textile designs on the treatment of depression in children.

Karim Ibrahim was the first one to use biogeometry in many fields such as architecture, agriculture and medical use. Also Sawi Mohamed Samir used the high efficiency of biogeometry in architecture designs. Ahmed Lobna AbdAlaziz used biogeometry motives in medical field and she applied in rates. Mohamed Islam Raafat applied in architecture designs.

<http://www.biogeometry.ca/>

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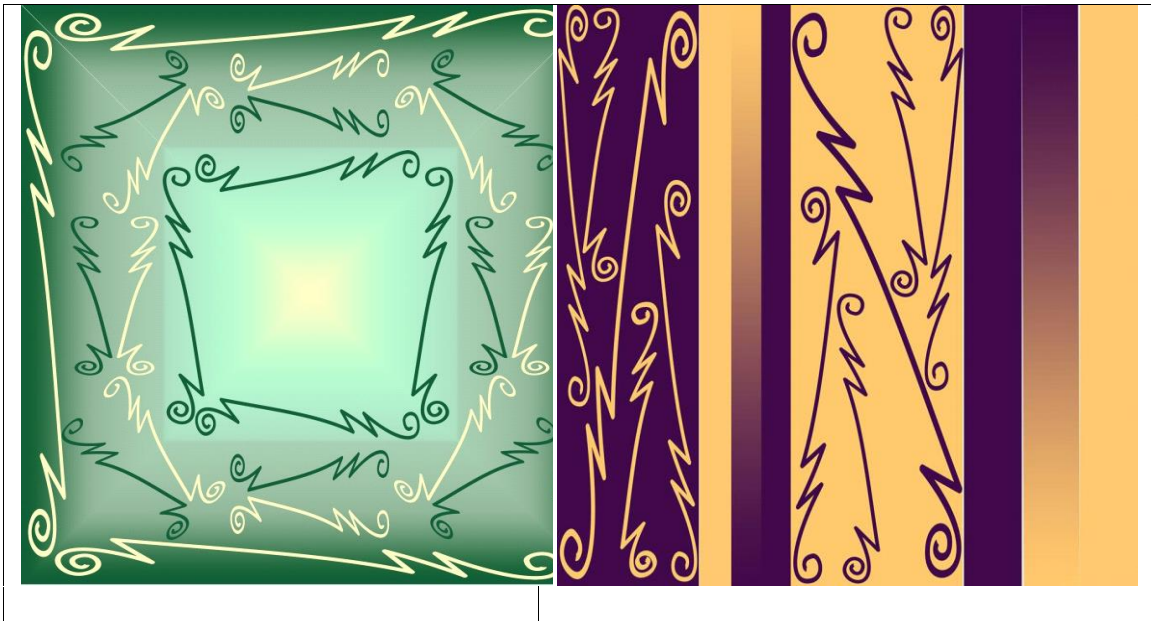
250 designs were designed with weaving design basics and biogeometry basics. We measured these designs until we selected 20 designs in order to choose the best of them to weave. We selected the best 10 designs and we used the same weaving structure and the same count the same fiber for warp and weft. After weaving we started measuring the material to know which the best effectiveness. Then we started searching for children from age 8-12 years at Abbasia Hospital for Psychiatry. We started examining 30 children before wearing the material and after wearing with the same depression test to measure the material effect.

We found 6 of these 10 materials have very high efficiency and we started making statistical analysis to know the best and the worst of the best to make some chemical treatments with anti-anxiety material in a trial to get a better result in children.

## MATERIALS AND METHODS

### *Paper design :*

We designed about 250 designs, 200 using the depression biogeometry motive and 50 with depression, heart, balance, immunity, liver ,calming ,pituitary and stomach motives upon to the recommendations of Prof. Ibrahim Karim, putting in concern the biogeometry design basics and textile designing basics . And here are some examples for both kinds.

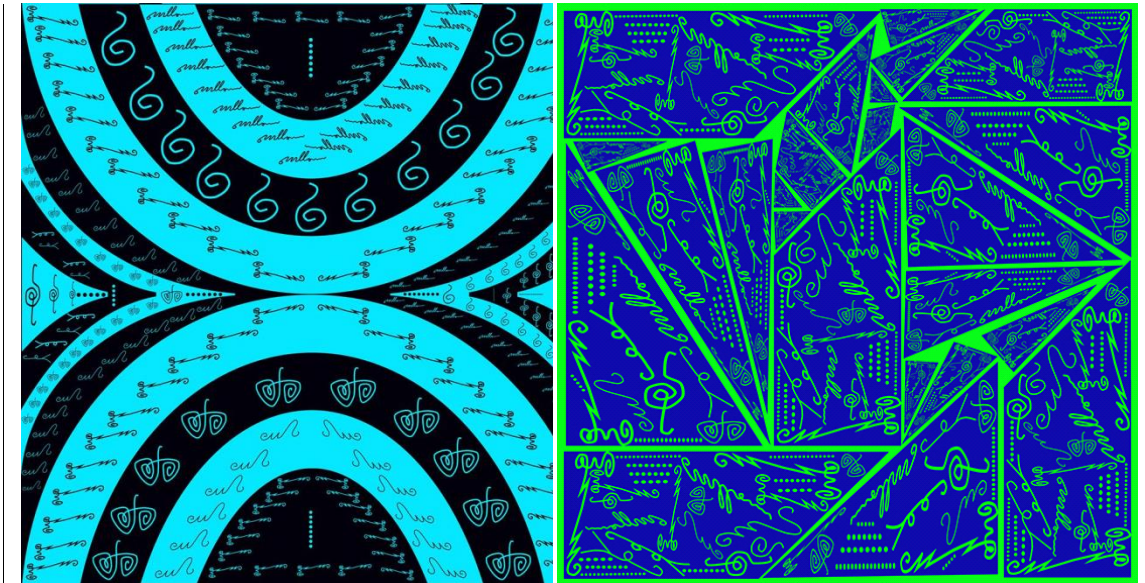




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**Weaved design:**

After measuring the paper designs biogeometrically, we choose 10 designs and started modifying on them in order to be weaved in a loom. We started to put the specification of the material as following:

**A. loom specification:**

190cm Italian Picanol Gammaloom manufactured 1996 with a speed of 360 weft/minute with a positive drafting and pegging system, shuttle jaculation.

**B. Material specification:**

Brocade textile jacquard harness strength 1344 cords, design strength in the harness 1320 cords, loom width 190cm, fabric width in the comb 146.6 cm, repetition width 36.66 cm, number of repetitions in fabric width 4 repetitions, warp count 150/1 denier, white polyester warp 288 yarn 36, warp yarn/cm, 18 door/cm in the comb, 2 warp yarn/door, weft count 30/2 denier, 25 colored cotton weft /cm. And here are some examples for weaved designs.

**Children:**

We started making art therapy with children from age 8-12 years old by wearing them our fabric, tracing and coloring some biogeometry motives. We choose 30 children from Abbasia hospital, Cairo, Egypt. With the help of the psychiatrists we choose those children and made for them a test to measure their depression level before and after wearing our fabric and making the art therapy.





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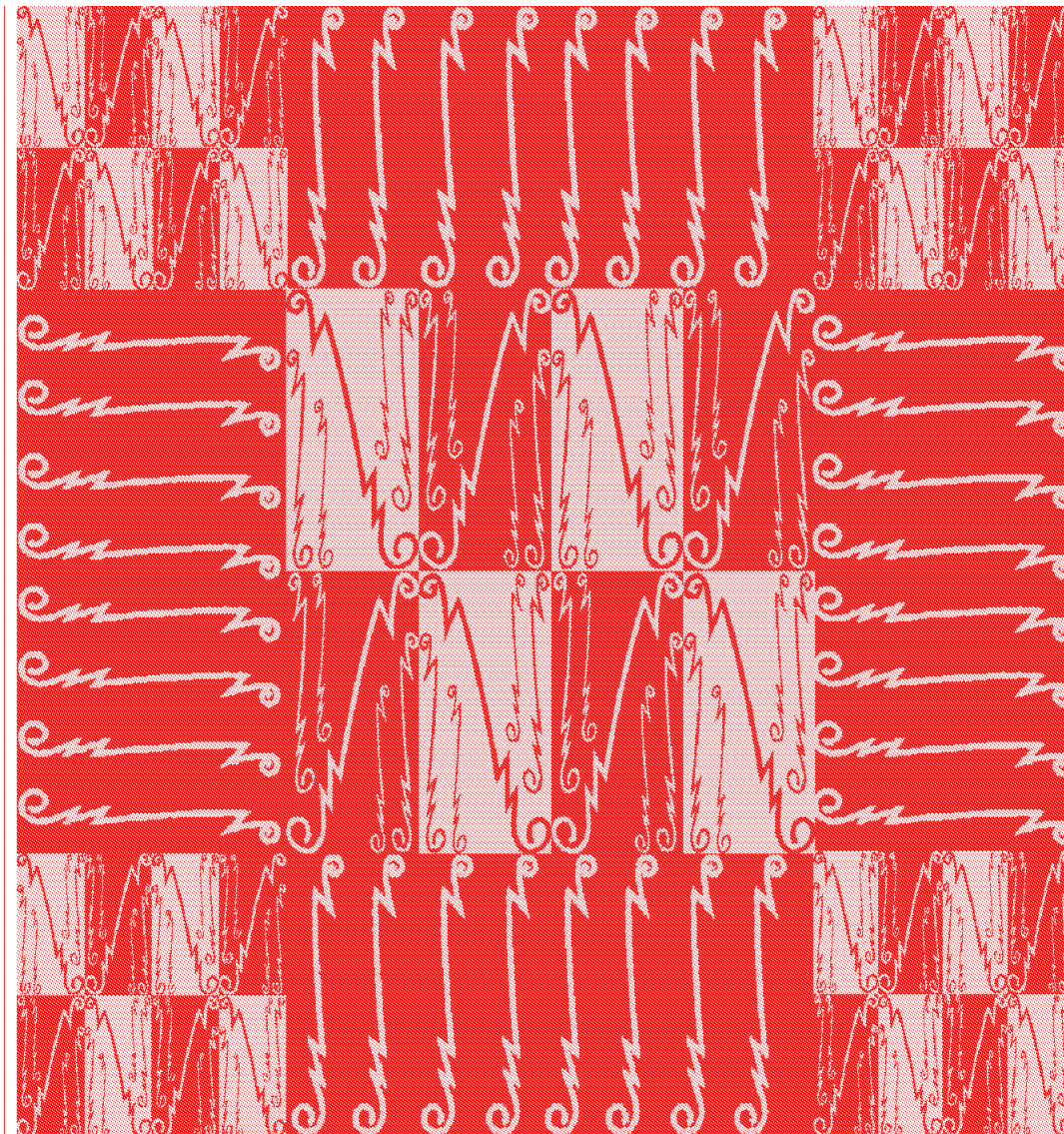
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***Lavender:***

We choose lavender as an anti-anxiety substance to treat the best and the worst fabric we experimented on children. (Under process (Andrea Butje, 2008).

***Statistical Analysis***

We tried reading our fabric achievement in children by making some statistical analysis from the results of the test we did before and after the art therapy. Unless high readings were an indicate for high level of depression, we set that they have all the same

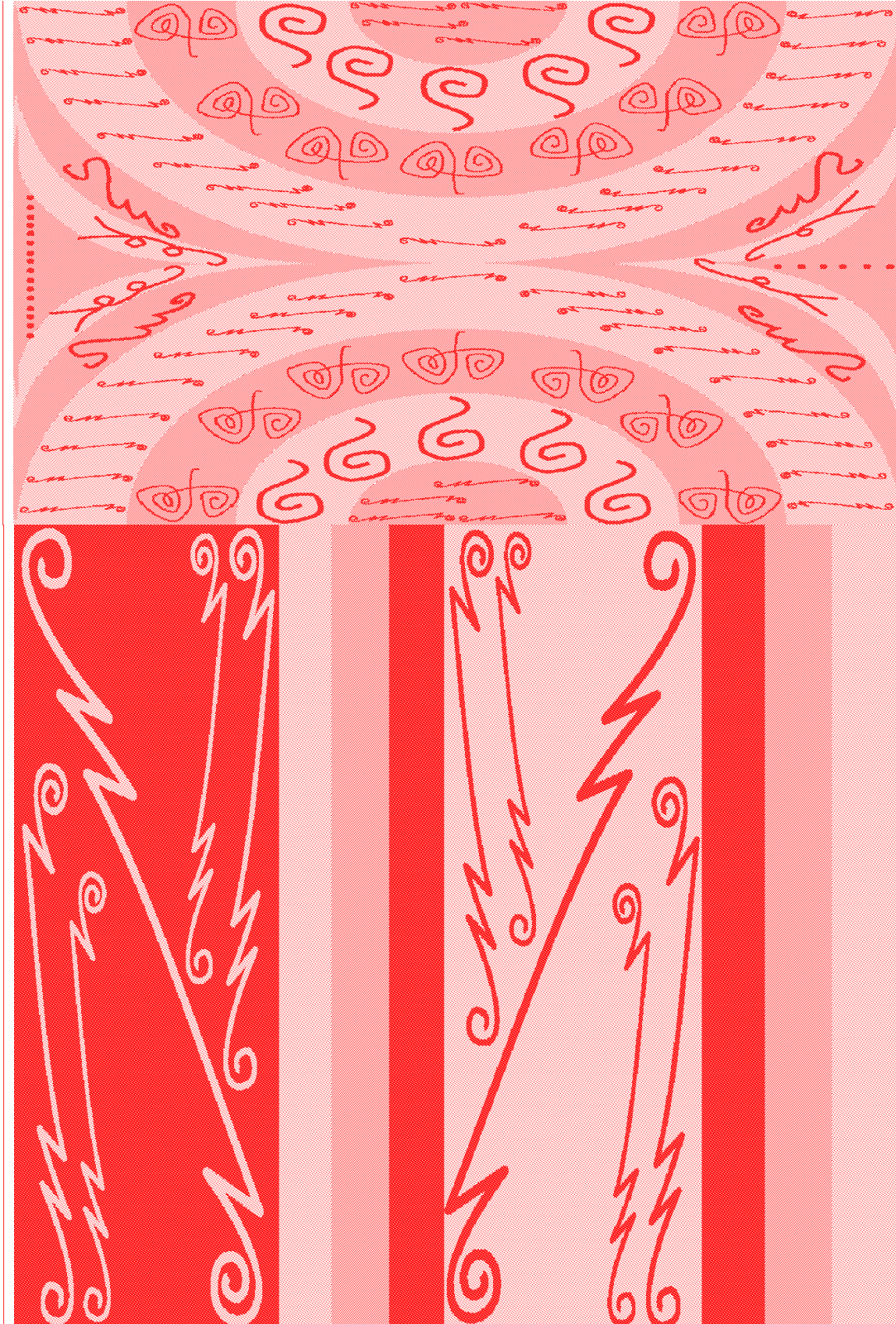




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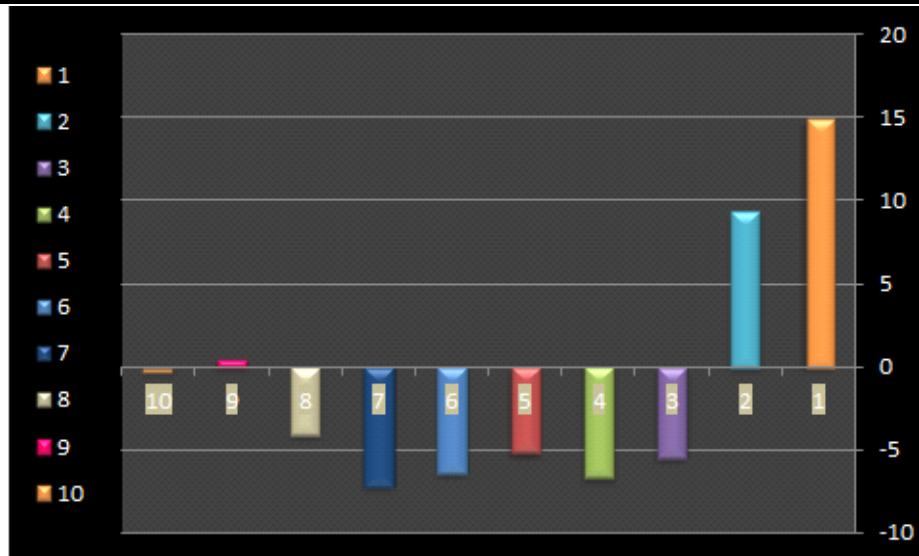


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Degree and here are some of the readings

SAMPLE ID	SAMPLE 9			SAMPLE 8			SAMPLE 7			SAMPLE 6			SAMPLE 5			SAMPLE 4			SAMPLE 3			SAMPLE 2			SAMPLE 1					
%	الم	لبنان	%	الم	لبنان	%	الم	لبنان	%	الم	لبنان	%	الم	لبنان	%	الم	لبنان	%	الم	لبنان	%	الم	لبنان	%	الم	لبنان				
2	49	50	2	49	50	-4	52	50	-20	55	46	-12.5	54	48	-10	54	49	5.45	52	55	-6.5	49	46	16	42	50	20	40	50	1
1.85	53	54	1.85	53	54	-3.8	54	52	5.56	51	54	7.41	50	54	-19	50	42	-14	50	44	-2	50	49	9.8	46	51	14.8	46	54	2
-8.5	51	47	-4.1	51	49	0	55	55	-12	55	49	-10	55	50	-12	55	49	-22	50	41	0	50	50	10.2	44	49	16.3	41	49	3
1.79	55	56	1.79	55	56	-13	53	47	-13	53	47	-1.92	53	52	-1.9	53	52	1.85	53	54	-3.9	53	51	14.5	47	55	30.4	39	56	4
0	51	51	0	51	51	-2	52	51	-2	52	51	-1.96	52	51	-5.9	54	51	-5.9	54	51	-5.9	54	51	9.43	48	53	17.6	42	51	5
0	47	47	0	47	47	-15	54	47	-15	54	47	0	47	47	6.38	44	47	6.38	44	47	-4.8	44	42	16.3	41	49	2.13	46	47	6
1.72	57	58	5	57	60	23.3	46	60	16.4	46	55	13.8	50	58	9.09	50	55	0	50	50	0	50	50	3.85	50	52	13.3	52	60	7
3.51	55	57	0	58	58	-14	56	49	-3.7	56	54	-3.7	56	54	1.96	50	51	-5.8	55	52	-7.8	55	51	3.51	55	57	22.4	45	58	8
3.39	57	59	3.39	57	59	1.85	53	54	10.2	53	59	-3.92	53	51	-1.9	53	52	-6	53	50	1.7	58	59	16.4	46	55	20.3	47	59	9
0	52	52	0	52	52	-3.8	54	52	-10	54	49	-3.85	54	52	-3.8	54	52	-3.8	54	52	-8	54	50	5.88	48	51	25	39	52	10
-4.2	50	48	-4.2	50	48	-17	56	48	-17	56	48	-16.7	56	48	-17	56	48	-8.3	52	48	5.5	52	55	0	42	42	6.25	45	48	11
0	47	47	0	47	47	-19	56	47	-19	56	47	-19.1	56	47	-1.8	56	55	-19	56	47	-12	56	50	4.08	47	49	6.38	44	47	12
0	44	44	0	44	44	-23	54	44	-23	54	44	-18.2	52	44	-18	52	44	-18	52	44	-18	52	44	6.82	41	44	0	44	44	13
0	49	49	0	49	49	-4.1	51	49	-4.1	51	49	-4.08	51	49	-21	51	42	-4.1	51	49	-2	51	50	10.6	42	47	12.2	43	49	14
0	46	46	0	46	46	-15	53	46	-15	53	46	-15.2	53	46	3.64	53	55	-15	53	46	-15	53	46	2.44	40	41	19.6	37	46	15
-1.9	55	54	3.51	55	57	-4	52	50	-27	52	41	-4	52	50	-4	52	50	8.77	52	57	0	52	52	13.6	51	59	21.1	45	57	16
7.84	47	51	7.84	47	51	0	51	51	0	51	51	1.96	50	51	1.96	50	51	0	51	51	1.9	51	52	1.96	50	51	9.8	46	51	17
0	40	40	0	40	40	1.82	54	55	-35	54	40	-35	54	40	-8	54	50	-35	54	40	-8	54	50	8.7	42	46	0	40	40	18
0	42	42	0	42	42	11.7	53	60	-26	53	42	-26.2	53	42	-29	54	42	-29	54	42	-14	49	43	4.65	41	43	2.38	41	42	19
-3.8	54	52	7.02	53	57	-1.8	56	55	1.75	56	57	-5.88	54	51	0	54	54	-3.8	54	52	-8	54	50	18.2	45	55	14	49	57	20
-1.8	56	55	-1.8	56	55	-11	50	45	-5.9	54	51	0	54	54	-8	54	50	-3.9	53	51	-8.2	53	49	14.5	47	55	9.09	50	55	21
-4.1	51	49	-4.1	51	49	6.12	46	49	6.12	46	49	6.12	46	49	6.12	46	49	6.12	46	49	-4.5	46	44	4.35	44	46	28.6	35	49	22
4.35	44	46	0	43	43	5.26	54	57	6.9	54	58	-27.9	55	43	-10	55	50	-28	55	43	3.5	55	57	2.38	41	42	4.65	41	43	23
-4.3	49	47	0	49	49	-10	54	49	-10	54	49	-10.2	54	49	-2	50	49	-2	50	49	-19	50	42	17	39	47	14.3	42	49	24
-1.9	55	54	-5.6	57	54	7.41	50	54	-6.4	50	47	7.41	50	54	0	50	50	7.41	50	54	2	50	51	17.3	43	52	9.26	49	54	25
0	56	56	0	56	56	-1.9	53	52	-10	53	48	-1.92	53	52	-3.9	53	51	1.85	53	54	-6	53	50	7.41	50	54	19.6	45	56	26
3.57	54	56	3.57	54	56	-8	54	50	-3.8	54	52	8.93	51	56	5.56	51	54	-2	51	50	5.6	51	54	8.93	51	56	20.3	47	59	27
-7.4	58	54	0	59	59	-8.5	51	47	-1.9	53	52	-6	53	50	-7.4	58	54	-5.7	56	53	-17	56	48	3.51	55	57	21.8	43	55	28
-4	52	50	-4	52	50	-4	52	50	-4	52	50	-4	52	50	-4	52	50	-4	52	50	-4	52	50	0	52	52	27.3	40	55	29
5.56	51	54	1.85	53	54	3.77	51	53	-5.6	57	54	-5.77	55	52	-1.9	55	54	-3.8	55	53	-9.6	57	52	27.8	39	54	16.7	45	54	30

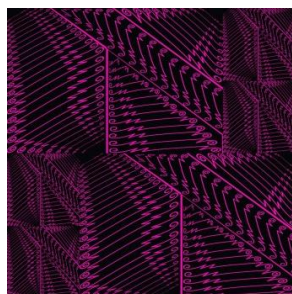
After doing eta analysis and arithmetic mean we had to classify which of the fabrics is more efficient as shown in that graph



## RESULTS AND DISCUSSION

- Using biogeometry motives helped to improve the children mood and decrease their anxiety.
- Using biogeometry motives in a count of multiples of number 4 gave more efficiency to the fabric.
- Using very fine weft fibers with a high set gave us a high opportunity not to destroy the motive curve and to get the right energy path.
- Using calming colors such as blue, purple, green and gray gave a higher effect than using anxiety colors such as yellow, red and dark pink.
- Measuring energy by geometrical pendulum on paper design is totally different than from weaved design than from chemically treated design.
- Crosses or even contact between the biogeometry motives together makes its energy path destroy, unless that this is in violation with some basics of design.

### Sample (1)



We used in this sample the multiple of 4 for the biogeometry depression motive in different sizes as groups distributed randomly using two calming colors black and rose. We measured this sample in paper and were positive also when we weaved we measured its positive energy and it was the highest sample when we examined it in children.



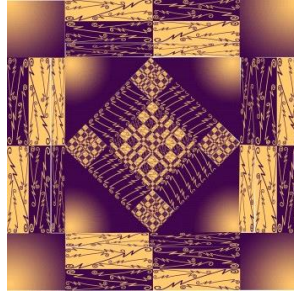
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**Sample (2)**



We used in this sample the multiple of 4 of the biogeometry depression motive in different sizes and directions inside 2 squares and around the squares in two colors both of them are calming purple and light yellow, 4 squares are gradient between purple and yellow. We used squares because the 90 degree angle gives more efficiency for the biogeometry motives. We measured this sample in paper and were positive also when we weaved after exchanging the gradient stripe to a frank color we measured its positive energy and it was the second highest sample when we examined it in children.

**Sample (3)**



We used in this sample 5 biogeometry depression motive in different sizes and directions inside 2 squares with 6 stripes in two colors both of them are calming purple and light yellow, 2 stripes are gradient between purple and yellow. We used squares because the 90 degree angle gives more efficiency for the biogeometry motives. We measured this sample in paper and were negative also when we weaved after exchanging the gradient stripe to a frank color we measured its negative energy and it was the third lowest sample when we examined it in children in males but positive in females. Unless negative energy doesn't mean harmful energy.



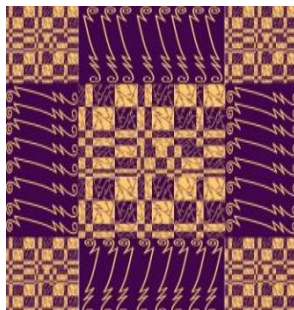


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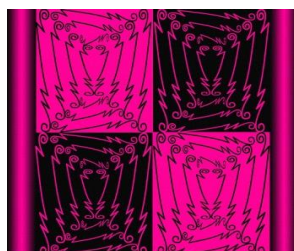
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**Sample (4)**



We used in this sample the multiple of 4 of the biogeometry depression motive in different sizes and directions inside 2 squares and around the squares in two colors both of them are calming purple and light yellow. We used squares because the 90 degree angle gives more efficiency for the biogeometry motives. We measured this sample in paper and were negative also when we weaved we measured its negative energy and it was the sixth lowest sample when we examined it in children.

**Sample (5)**



We used in this sample the multiple of 4 for the biogeometry depression motive in different sizes inside 4 squares with 4 stripes in two colors both of them are calming black and rose. We used squares because the 90 degree angle gives more efficiency for the biogeometry motives specially that we used the same angle with the motives' position. We measured this sample in paper and were positive also when we weaved after exchanging the gradient stripe to a frank color we measured its positive energy and it was the highest sample when we examined it in children.

**Sample (6)**



We used in this sample the multiple of 4 of the biogeometry depression, immunity, balance, stomach, heart, liver, calming and , pituitary motive in different directions inside 6 stripes and 8 circles using for both of them gradient between 2 calming colors light green and light yellow.



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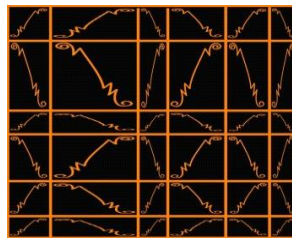
We measured this sample in paper and were negative also when we weaved after exchanging the gradient to frank colors we measured its negative energy and it was the fifth lowest positive sample when we examined it in children.

**Sample (7)**



We used in this sample biogeometry depression motive in different directions inside and around squares in two colors both of them are calming black and gray. We used squares because the 90 degree angel gives more efficiency for the biogeometry motives specially that we used the same angle with the motives' position also there were crossing and contact in the sides of the surrounding motives. We measured this sample in paper and were positive also when we measured its positive energy and it was the second highest sample when we examined it in children.

**Sample (8)**



We used in this sample the multiple of 4 for the biogeometry depression motive in different directions inside squares in two colors both of them are calming black and light orange. We used squares because the 90 degree angel gives more efficiency for the biogeometry motives specially that we used the same angle with the motives' position. We measured this sample in paper and were positive also when we measured its negative energy and it was the third negative sample when we examined it in children.

**Sample (9)**



We used in this sample the multiple of 4 of the biogeometry depression, immunity, balance, stomach, heart, liver, calming and , pituitary motive in different sizes and directions inside 4 half circle in two colors both of them are calming blue and light blue,. We used half circle because it gives more efficiency for the biogeometry motives. We measured this sample in



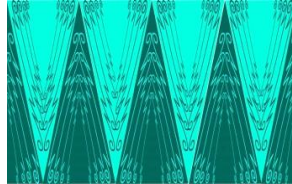
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paper and were positive also when we weaved we measured its positive energy and it was the lowest positive sample when we examined it in children.

**Sample (10)**



We used in this sample the multiple of 4 for the biogeometry depression motive in different sizes inside 4 triangles two colors both of them are calming green and light green. We measured this sample in paper and were positive also when we weaved we measured its negative energy and it was the best negative sample when we examined it in children.

## **CONCLUSION**

To conclude we can say that the merge between biogeometry , textile engineering&designing and medical field is a very important step in dispensing medicines in psychiatry field and created a new creative methodology in designing using some basics of textile designing ( loom specification or material specification) with color basics with bigeometry basics in order to get the PG3 energy needed to every organ in the body to work well .

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### الملخص العربي

تتلخص مشكلة البحث في وجود حاجة ملحة لدى مصممي المنسوجات للكشف عن مصادر جديدة للإبداع الفني وتوظيف المنتج النسيجي لتقديم حلول وظيفية مستحدثة وذلك من خلال تفعيل علم البيوجيومترى وارتباطه مع أسس تصميم المنسوجات وعناصر التركيب البنائي النسيجي و الوصول إلى تصميمات للمنتج النسيجي وفقا لفلسفة هندسة التشكيل الحيوى لعلاج الأطفال المصابون بالإكتئاب و قد تم تطبيق 250 تصميم مختلف يعكس الرسومات البيوجيومترية و تم اختبار تلك التصميمات من حيث الطاقة السالبة و الطاقة الموجبة لاختيار التصميم/التصميمات التي تحقق اعلى تأثير حيوى. و قد وجد ان التصميم النسيجي يختلف فاعليته عن التصميم الورقى في بعض التصميمات التي تم دراستها خلال البحث. كذلك اظهرت التصميمات النسجية المعالجة تأثيرا اخر. و قد وجد تحسن كبير في حالة الاطفال المصابون بالاكتئاب و المعالجون بادوية و تخفيض جرعة الدواء.