

# Body Image Distortion in Patients with Depression and Normal Persons as Good Enough Draw a Person Test

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## Abstract

**Aim and Background:** Body image refers to the perception and feeling that a person has about his/her physical self and its constituents. This research studies the comparison of body image distortion in patients with depression and normal in Rafsanjan city, Iran.

**Method:** This is a descriptive-analytical study with case and control group. The investigated population consists of all patients with depressive disorder who referred to psychiatric Children and Adolesce outpatient clinics of Rafsanjan City (A city in southwest of Iran) in 2014. Drawing test of "Good enough - Harris" had been used in 40 depressed patients and 40 non-depressed as a control group. Chi-square test for data analyzing had been used.

**Results:** The results showed that depressed patients in painting of the dummies were different in the most aspects as compared to control group.

**Conclusion:** We suggest using "dummy test Good enough- Harris" in order to complementary diagnosis of depressed Persons.

**Key words:** depressed patients, Normal Persons, good enough – harris's dummy test

## Introduction:

Major depressive disorder (MDD), as one of the most prevalent psychiatric diagnoses, is characterized by the sense of depression and sadness, low self-confidence, and the lack of interest in any types of daily activity or enjoyment, which is also called "psychological cold". It is a set

of different psychological states ranging from mild sense of dysphoria of silence and avoidance of routine activities [1]. Body image refers to the perception and feeling that a person has of his/her physical self and its constituents [2].

Neurologists, psychologists and psychiatrists use different terms such as imagination [3], schema [4] and subjective impression to describe the manner by which an individual physically conceptualizes self in his/her mind [5]. In 1998, Chai reported a significant difference between drawings of individuals with mania, mental retardation and schizophrenia with other patients [6]. Drawing tests are projective diagnosis techniques, in which the subject is asked to draw a man or a condition to assess his/her cognitive, interpersonal or psychological functions [7, 8]. Although there are a wide range of Draw-a-Man (DAM) tests [9, 10], all of them require a subject for drawing one or more men. Among drawing test, DAM is the oldest and the most reputable test.

Since drawing tests are used as evaluative measures of mental functions, family personality and functions, emotions, fears and needs and for identification of gender roles, this study aim to compare the body image disorders in DAM of patients with MDD and healthy people.

### Materials and method:

This is a descriptive-analytical study with case and control group. The investigated population consists of all patients with depressive disorder who went to psychiatric clinics of Rafsanjan city in 2014. This study used "Goodinough - Harris DAM test" to score drawings [11]. The test was administered on 40 children with depressive disorder and 40 normal children that aged between 8 to 12 years old. In this study, non-probability convenience sampling method was used. Both groups (case and control) were matched in six variables, namely age, sex, education, marital status, and the lack of physical disorder.

#### DAM Procedure:

It is an easy administrable test. First of all, it is said to the child that "I want you to make a picture of a person. Make the very best picture that you can. Take your time and work very carefully. Try very hard and see what a good picture you can make "[12].

#### Drawing and Assessment Notes:

1. Providing the child with a black pencil or an appropriate pen, as drawing with coloring pencils is difficult, making the identification of drawing's components problematic.
2. Drawing with coloring pencil requires other conditions for evaluation.
3. Minimum paper size is 21mm×30mm
4. Let the child draw several pictures and then score the best and the most complete one.
5. Different drawing results imply other disorders. In this case, the child should be referred to a psychologist or a psychotherapist (13).

#### Scoring System:

A: Each component drawn by the child has 1 score as follows:

1. Head presents
2. Legs present
3. Hands present (one hand or both)
4. Trunk presents
5. Length of the trunk is greater than the breadth
6. Shoulder presents
7. Both arms and legs attached to the trunk
8. Legs and hands attached to the trunk at the correct points

9. Neck presents
10. Outline of the neck is attached to the head and trunk
11. Eyes present
12. Nose presents
13. Mouth presents
14. Two lips shown
15. Nostril shown
16. Hair shown (partial)
17. Hairs shown (completely)
18. Clothing presents (signs of clothing)
19. Two articles of clothing
20. All trunk covered by clothing
21. Four articles of clothing definitely indicated (ext. necktie, hat, socks, shoe, shirt, coat and trousers)
22. Clothing is official or uniform (costume) (school uniform is acceptable)
23. Fingers present (any indication)
24. Correct number of fingers shown
25. Correct shape and size of fingers shown
26. Position of thumb is clearly defined
27. Hand shown distinct from opening fingers (palm shown)
28. Arms present
29. knee presents
30. correct head to body scale shown
31. correct arms and hands to body scale shown
32. correct scale of legs shown
33. correct scale of sole shown
34. no upward tendency of legs
35. hands and feet in 2 dimensions
36. shoe or foot heel shown
37. coordination of main lines (indicating no shake of the child hands)
38. coordination of main and detail lines (the drawing is accurate)
39. coordination of headlines (hairs and around the head drawn accurately)
40. coordination of truck line
41. coordination of hands and feet line
42. coordination of face lines
43. ears presents
44. correct scale of ears shown
45. pupil shown
46. correct scale of eyes shown

- 47. proportion of eyes in full face and profile
- 48. both chin and forehead present
- 49. shoulder ledge shown in profile
- 50. incomplete profile (incomplete trunk and profile)
- 51. profile presents

Calculation Method (14, 15):

1. Scores are added up (total sum is not beyond 51)
2. The initial raw score is converted to mental age using a Table 1. Then, and IQ is obtained using following equation

$$IQ = \frac{\text{mental age}}{\text{chronological age}} \times 100$$

3. For example, if the raw score of a test is 40, the corresponding raw score should be found in the conversion table (Table 1), and the mental age is extracted (here it is 13). This is the child mental age. Then, the obtained number is multiplied by 12 (months of a year).

In the next step, the chronological age of the child is calculated. For example, if the subject is 10 years and 3 months old, we should multiply 10 by 12 and then add it with 3 (number of months) to obtain chronological age of the child. Subject's IQ is obtained by dividing the product of numerator and denominator and multiplying the output by 100, as follows:

$$IQ = 13 \times 12 \times 100 = 126$$

$$10 \times 12 + 3$$

4. The obtained score, then, is found in IQ classification table (table 2) to extract the child's IQ.

After data collection, they were introduced to a computer as special codes and analyzed by SPSS 18. Chi-square and T-square test tests were used to obtain descriptive statistics of tables and diagrams, and inferential statistics. In addition,  $p < 0.05$  was considered statistically significant.

**Results:**

In this study, 80 cases of depression and healthy Persons were collected that Frequency distribution of both groups (healthy and depressed) in various aspects of drawing are as follows:

**Table 1:** The frequency distribution removing a member in draw a person test

Variable cases	Removal of member		P- value
	they have no removal members	they have removal members	
Healthy Persons	75.5%(n=35)	15.2%(n=5)	<0.001
Depressed patients	25.5%(n=12)	84.8%(n=28)	
Total	100%(n=47)	100%(n=33)	

**Table 1:** The frequency distribution removing members in drawing a person test among healthy subjects and depressed

As, you have observed in the table above 15.2 percent of healthy persons Removal of their paintings were visible While persons with depression 84/8 percent removed members of their paintings that the differences were was statistically significant ( $p > 0/001$ ).

Variable cases	local drawing of painting				P-value
	Bottom	Left	Right	Top	
Healthy persons	42.9%(n=9)	45%(n=9)	50%(n=8)	60.9%(n=14)	0.633
Depressed patients	57.1%(n=12)	55%(n=11)	50%(n=8)	39.1%(n=9)	
Total	100%(n=21)	100%(n=21)	100%(n=16)	100%(n=23)	

**Table 2:** Frequency distribution local drawing of painting in healthy and depressed Persons

The above results indicated that place painting in four parts, down, left, right and up respectively in healthy persons 9/42, 45, 50 and 9/60 percent and in depressed people these numbers are 1/57, 55, 50 and 1/39

percent that most places in healthy persons were in top of the page and depressed persons have been the bottom of the page. But differences were not statistically significant ( $p = 0.633$ ).

Variable cases	Geometric shapes		P- value
	they have no removal members	they have removal members	
Healthy persons	66.7%(n=34)	20.7%(n=6)	<0.001
Depressed patients	33.3%(n=17)	79.3%(n=23)	
Total	100%(n=51)	100%(n=29)	

**Table 3:** Frequency distribution of geometric shapes in the drawing a person test in depressed and healthy Persons

The above results indicated that healthy persons had not used 66.7 of geometric shapes in his paintings, while the number of depressed people was 33.3% that differences were statistically significant (p>0/001).

Variable cases	Incorrect replacement members		P- value
	no	yes	
Healthy persons	67.3%(n=35)	17.9%(n=5)	<0.001
Depressed patients	32.7%(n=17)	82.1%(n=23)	
Total	100%(n=52)	100%(n=28)	

**Table 4:** Frequency distribution of incorrect replacement members in the drawing depressed and healthy persons

The table shows that only 17.9% of healthy persons substituted Incorrect members while in the depressed persons were 82/1 percent That differences were statistically significant (p>0/001).

Variable cases	Non-custom size distribution members		P- value
	no	yes	
Healthy persons	62.3%(n=33)	25.9%(n=7)	0.002
Depressed patients	37.7%(n=20)	74.1%(n=20)	
Total	100%(n=53)	100%(n=27)	

**Table 5:** Non-custom size distribution members in the drawing in the depressed and healthy persons.

The above table (5) indicated non-custom members size distribution in depressed persons 74 /1 % and healthy persons were 25.9 percent. Also, healthy persons 62/3 % of members in their paintings were

unconventional While this amount in depressed persons were 37/7 percent that differences were statistically significant (p>0/002).

Variable cases	Deformation in the drawing		P- value
	no	yes	
Healthy persons	67.3%(n=33)	22.6%(n=7)	<0.001
Depressed persons	32.7%(n=16)	77.4%(n=24)	
Total	100%(n=49)	100%(n=31)	

**Table 6:** Frequency distribution of deformation in the drawing depressed and healthy persons

As the table above observed in 77.4 percent of depressed persons had changed the basic shape drawing that differences were statistically significant (p>0.001).

Variable cases	Replacement of Incorrect on page		P- value
	No	Yes	
Healthy persons	66.0%(n=33)	23.3%(n=7)	<0.001
Depressed patients	34.0%(n=17)	76.7%(n=23)	
Total	100%(n=50)	100%(n=30)	

**Table 7:** Frequency distribution of replacement draw a person test Incorrect page depressed and healthy persons

The table above related to the replacement of the Incorrect on the page in the draw a person test in the depressed and healthy persons and in Persons of depressed 7 23 (23/3 and 76.7 respectively percent) were replacement Incorrect page. 33 healthy persons and in persons with

depression in the 17 patients (66% and 34%) were substituted in the Incorrect Location That differences were statistically significant (p>0/001).

Variable cases	Incorrect Fitness		P- value
	No	Yes	
Healthy persons	66.7%(n=34)	20.7%(n=6)	<0.001
Depressed patients	33.3%(n=17)	79.3%(n=23)	
Total	100%(n=51)	100%(n=29)	

**Table 8:** Frequency of members in the draw incorrect Fitness at healthy and depressed persons

As been observed in the table above, six cases (20.7%) of healthy persons and 23 patients (79.3%) drawing Fitness of incorrect that differences were statistically significant (p>0/001).

Variable cases	Sex paintings drawing		P- value
	Female	Man	
Healthy persons	48.5%(n=16)	51.1%(n=24)	0.820
Depressed patient	51.5%(n=17)	48.9%(n=23)	
Total	100%(n=33)	100%(n=47)	

**Table 9:** Distribution of Sex painting in depressed and healthy children

Above normal person's depicted 51.1% (24 cases) and in depressed persons, 23 cases (49.9%) men Gender painting. Also in healthy persons 48.5% (16 cases) women and in persons with depression, 51.5% (n=17) women were drawn. These differences were not statistically significant (p= 0.820).

**Discussion:**

Results of this study showed that member omission, image transparency, using figures, wrong placement on the page, wrong member placement, deformation, wrong member symmetry, and the place of drawing on the page are significantly more frequent in depressed persons as compared to normal persons. These results correlate with the findings of other studies in the field.

Regarding the member omission in draw-a-man test, results showed that member omission is more frequently observed in depressed persons. This correlated with the results reported by Key, Qaleiha et al [13], and Sayadi et al [5] which showed that persons are different concerning member omission. This issue is further seen in patients. Member omission is in

fact considered a kind of denial defensive mechanism. Like those suffering from schizophrenia, depressed persons omit the bigger part of the drawing. This can indicate unconscious personal conflicts. In fact, depressed persons may remove some parts of the drawing and (or) do not believe in that due to losing energy, not being in mood and even nihilistic delusions. It can also be inferred that depressed persons suffer from internal conflicts. Now, it can be said that the conflicts can be diagnosed using the psychological interpretation of drawing and based on the omitted member.

Another finding is related to the place of drawing the image of body. Persons further tend to draw at the top of the page yet depressed ones at the bottom. In other words, most depressed persons in this study drew the man inappropriately. This disorder was observed in a few non-depressed persons. This correlates with the results of a study reported that wrong drawing placement on the page is farther in depressed persons. It must be noted that the middle of the page is the suitable place for drawing. It indicates an individual's confidence. Drawing the man at the corner of the page can explain the feeling of despair and worthlessness in the depressed

Persons. The suitable place of the drawing almost indicates security and confidence. Normal persons usually draw the man in the middle of the page. Another reason can be low confidence and improper eye contact in depressed persons.

Another finding was the wrong placement of the members in drawing. It was further observed among depressed persons as compared to the normal ones. This correlated with the results of other studies. The wrong placement of the members can be attributed to their cognitive problems, lack of focus, low temper, and low motivation. When bodies are disproportionate (the improper symmetry of body) and (or) members are not attached to the body and (or) some parts of the body are attached to the wrong places (the wrong placement of body), distortion occurs. Mild distortions reflect a weak self-image, anxiety, and weak adjustment. Strong distortions are seen in children who have experienced severe emotional changes. Impulsive children do not pay attention to the symmetry of the drawing.

Regarding the deformation of the drawings further seen in patients, it can be explained by the absence of mind, reduction of concentration, and reduction of patience. The same happened in Sayadi et al [5] study on schizophrenia patients. Similar results were also reported at a psychiatric ward of Farshchian Hospital, Hamedan.

In this research, it was found out that the higher percentage of the depressed persons had improper symmetry of the drawing and a lower percentage had wrong placement of the drawing. Distortion included a change in the general design of the drawing (deformation). This together with the addition of strange details to the drawing almost shows that the persons are not aware of realities. They are confused and unsettled. It can demonstrate psychosis. The higher percentage of depressed persons under study showed this disorder.

The abnormal size of drawings was further frequent among depressed persons. This is similar to the results of other studies. These results do not correlate with the results reported by Holmes regarding the relationship between depression and the size of drawing. Rodenberg et al carried out a study on the painting of 8-12 years old persons. They showed that the main symptoms of aggression in persons to draw-a-man test included drawing with large, big muscles, long arms and nails, etc. Since the signs of violence are also seen in some depressed persons, the issue can partially be attributed to depression.

In this study, no significant difference was observed between depressed and normal persons in determining gender. Yet, men's drawings have been better than women both in depressed and normal children. Since the mental image of body is the image and feeling of a person from size and form of his own body and its constituent elements in the mind. It shows that individuals (whether men or women, depressed or non-depressed) further tend to demonstrate their feelings in terms of male sexuality. Apparently, male sexuality (versus the females) is the symbol of power and confidence in people's mind. It can originate from the cultural differences of various societies and, also, people's attitude and tendency toward one of the two genders in a society.

The last result of this study was related to Good enough test scores for both depressed and normal persons. Mean depressed children score was clearly lower as compared to the normal ones. Reviewing the history of Good Enough-Harris test shows that depressed children test score is lower than the normal persons score. Results are almost similar to the results of the previous studies. Good Enough-Harris drawing is a suitable test for determining the evolutionary level of IQ, diagnosing children's mental retardation, in Iranian society.

Like graphic texts, the analysis of the semantic levels of language, text, figure or painting is possible by the aids of the implications and theoretical principles of visual arts. Visual signs guide reader's mind toward

codification by providing some hints. Depressed children (like, schizophrenia and mental retardation.) have a disrupted mental image of body. The conscious concept of body image is a cortex-dependent process.

## Conclusion

The body image is also a part of perception and motion. Hence, it can be inferred that, in depressed Persons, cortex processes and perceptual processes have changed. Thus, using thus indirect evaluation technique and by the aids of demonstrative activity, it is possible to diagnose what a depressed person is not able to express.

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## Conflict of interest

None

## Authors' contribution

RB had basic role in design and management of this study. All other participated authors helped to perform stages of study and wrote draft of article then RB revised the article and manuscript. finally, SA submitted the manuscript.

## References

1. Fakhari A, Akbari A, Shiva SH. (2005). The initial complaints in depressed people. *J PCPY*. 11 (2): 237-242.
2. Rajabi GH. (2003). The epidemiological study of depression in the region of Kerman, Mahan. *Medicine and purification*. (52): 44-51.
3. Mohammadi M-R, Davidian H, Noorbala AA, Malekafzali H, Naghavi HR, Pouretmad HR, et al. (2005). An epidemiological survey of psychiatric disorders in Iran. *Clinical practice and epidemiology in mental health*. 1(1):16-25.
4. Farhadi A, Pouretmad H. (2008). Symptoms of aggression in Paintings Dummy test the 9-year-old boys. *Journal of Fundamentals of Mental Health*. 10 (3):199-207.
5. Sayadi AH, Nazer A. (2001). Body image disorder in patients with schizophrenia and normal individuals. *Journal of thought and behavior*. 3(20):26-31.
6. Sahebi M, Pouretmad H, Mohammadi M. (2003). Size and coloring of drawing a person test in adolescents with bipolar disorders. *Payesh*. 2(3):191-198
7. Thomas GV, Jolley RP. (1998). Drawing conclusions: A re-examination of empirical and conceptual bases for psychological evaluation of children from their drawings. *British Journal of Clinical Psychology*. 37(2):127-132
8. Milne LC, Greenway P. (1999). Color in children's drawings: The influence of age and gender. *The Arts in Psychotherapy*. 26(4):261-270.
9. Robertson JM, Johnson AL, Benton SL, Janey BA, Cabral J, Woodford JA. (2002). What's in a picture? Comparing gender constructs of younger and older adults. *The Journal of Men's Studies*. 11(1):1-27
10. Rajabi G, Najarian B, Atari YA. (2000). Normalization's men scale drawing of dummy Goodenough - Harris on Bushehr children 6 to 11 years old. *Journal of Psychology*. 4 (3): 266-247.



11. Kay SR. (1978). Qualitative differences in human figure drawings according to schizophrenic subtype. Perceptual and motor skills. 47(3):923-32.
12. Pasha Sharifi H, Nikhah M. (1996). Psychological Assessment. 2nd ed. Tehran, Roshd Publication; 558.
13. Ghaleiha A, Zarabian MK, Haghighi M, Shirkhanlo N. (2011). Comparison of the disturbance in mental image of the body in patients with major depression disorder and non-depressed persons. Journal of Birjand University of Medical Sciences. 18(1):18-25.
14. Sahebi M, Pouretamad H, Mohammadi M. (2003). Size and coloring of drawing a person test in adolescents with bipolar disorders. Payesh. 2(3):191-198.
15. Lilienfeld SO, Wood JM, Garb HN. (2000). The scientific status of projective techniques. Psychological science in the public interest. 1(2):27-32.



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